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BIBLICAL

NATURAL SCIENCE.

Engraved by J. Stephenson from a Photograph by Frith.

THE EVENING AND THE MORNING WERE THE FIFTH DAY.
GEN. I. 2. 3.
THE TREES OF THE LORD ARE FULL OF SAP
PSALM CIV. 19
BEHOLD NOW BEHEMOTH: HE IS THE CHIEF OF THE WAYS OF GOD
JOB XL. 19
HIS FOOT SHALL STAND IN THAT DAY UPON THE MOUNT OF OLIVES
ZECH. XIV. 4

ILLUSTRATED BY MAPS
&
NUMEROUS WOOD-CUTS.

Biblical Natural Science

BEING THE EXPLANATION
OF ALL REFERENCES IN

HOLY SCRIPTURE

TO

GEOLOGY, BOTANY, ZOOLOGY, & PHYSICAL GEOGRAPHY.

BY THE

REV. IOHN DUNS, F.R.S.E.

VOL. I.

JOHN LEIGHTON, F.S.A.

WILLIAM MACKENSIE;
LONDON, GLASGOW, & EDINBURGH

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PREFACE.

THIS Work in its scope and object is new. It differs from Dictionaries of the Bible, in being mainly limited to one important class of subjects. These are much more fully examined than they could have been within the limits of a general biblical dictionary.

The natural phenomena and the facts brought under the reader's notice, are considered in the order in which they occur in the Sacred Narrative. In every instance their place in the context is carefully noted. This has necessarily led to a good deal of textual exposition. Only thus could each subject be set forth as used by the Spirit of God.

Theological controversy has been avoided. When topics are handled, on which important differences of opinion exist, the exposition has been conducted on principles whose soundness is acknowledged by all professing Christians, and the inferences are such as will be readily accepted. The scope of the Work is catholic throughout. As one leading desire in preparing it has been to make it generally useful, I have not hesitated to give prominence to such practical and experimental aspects of truth as underlie illustrations drawn from the ways and works of God. It has been my aim to make the Work suitable for consecutive reading, as well as for reference; and it is hoped it will be found useful and interesting as a household book.

A somewhat full discussion of the relations between the Bible and modern Science constitutes a leading feature of "Biblical Natural Science." A careful review of recent Theories of Creation, and of the Natural History of Man, has been associated with a continuous exposition of the first eight chapters of Genesis. Several of these theories are very closely connected with Geology. As, however, it was not to be expected that the majority of readers could have enjoyed opportunities of studying this science, so far even as to have fitted themselves for following such discussions with intelligence and discrimination, full outlines are given, in the introductory pages, of the order and superposition of strata and of the succession of Life on the Earth. This is done in such a way, that even readers unacquainted with Geology may intelligently appreciate the geological aspects of these theories.

Questions of great moment, and involving vital interests, have been raised lately touching the existence of death on the earth before the introduction of sin,

the import of the curse pronounced on the ground because of Adam's sin, and the bearings of the discovery of true serpents in pre-adamic strata on the Bible account of the Serpent of Eden. These are fully reviewed in this Work, I believe for the first time in biblical literature.

Controversies on the "Origin of Species," "Development by Natural Law," "The Unity of the Human race," and, as intimately related to the last, "General Biblical Chronology," are examined. A complete view is given of all the points at which recent discoveries in Natural Science have been held to impinge on the statements of Scripture. The researches of the archæologist have also been made frequent use of, and much attention has been given to the identification of the chief places referred to in Genesis. This has been done with the view of making references to ethnology and physical geography clear and definite.

But, though much prominence has been given to these general topics, I am most anxious that the elucidation of the text of the Holy Scriptures should be regarded as the chief and distinctive feature of this Work. The experience of nearly twenty years in the Ministry, has shown me that many most interesting lights can be shed on the Sacred Text from the point of view of Natural Science, by those who to sound scientific attainments add an acquaintance with systematic theology and with the original languages of Scripture. I have, moreover, had occasion to know, that whatever helps to explain the imagery of the Bible, to show the point of illustrations drawn from the phenomena of nature, and thereby to bring the thoughts of God more vividly out, may be made powerfully attractive both to scientific students of the Word, and to those who peruse it chiefly that they may grow in grace and in knowledge.

The Work is mainly designed for popular use. The introduction of numerous learned foot-notes and references would not have harmonized with this object. When a quotation is made, the reference is inserted in the text. A list of works which have been found useful is given at the end. Any who may wish to continue their studies in the same fields, will thus be able to turn at once to the principal sources of information.

"By the light of nature," wrote Kepler, as he looked up to God, "thou hast kindled in us the longing after the light of thy grace; thanks be to thee, Creator and Lord, that thou lettest me rejoice in thy works." And he adds—"From Him, through Him, and in Him is all, the material as well as the spiritual—all that we know and all that we know not yet—for there is much to do that is yet undone."

THEORIES OF CREATION.

GENESIS I.

"IN THE BEGINNING GOD CREATED THE HEAVEN AND THE EARTH."

THE Creation of the World and the Inspiration of "the Word" are to be equally regarded as the sovereign work of God. The Book of Nature and the Book of God have the same infallible author. Thus they cannot contradict each other. The highest purpose to which man can devote the powers of his mind, is to acquaint himself with God—to examine the twofold revelation, humbly but thankfully, with the view of ascertaining what it makes known of the person and works of its divine author. The earth, the ocean, and the starry sky tell us something about God. The Bible tells us all that he wishes us to know of Himself. Each testifies of the same One. There is no variance between them. Whence then the different utterances held to be given by these witnesses of God? The Divine Record found in the material world has been often regarded as in direct conflict with the Divine Record in the Bible. The only answer which can be given, by those who hold both records to be divine, is, that the student has mistaken the meaning of one or of both of them. The human interpreter has been forward to cast the shadows of his own prejudices on the fair form of truth, and to forget that if "God spake by Moses," he is not at liberty to alter God's words from the meaning which, as words, they naturally bear, in order to bring them into harmony with his views of the discoveries of science. They cannot be in anything but direct agreement with these, at every point at which they may lawfully be brought together. If they are associated at points at which they never were designed to meet, the fault lies with man. All who hold by the Scriptures as inspired by the Spirit of God, have really nothing to fear from the progress of the sciences. Without doubt, however, many, even of intelligent believers in the inspiration of the Scriptures, have had their faith shaken by repeated statements, that in one branch and another of

natural science discoveries have been made which flatly contradict the words of the Bible; and, as they looked out on the conflicts waged in the wide field of learned controversy, like old Eli they have trembled in heart for the "Ark of God." The result has been an impression, either that science is an enemy to revelation, or that the first chapter of Genesis, in connection with which most of the warfare has been carried on, is not to be regarded as resting on the same secure and infallible basis as other portions of the Word of God. In either case the result is dangerous. Such an attitude to science is both unworthy of our love to the Creator, whose mind in his works science seeks to discover, and of the intellectual nature of man also. Anything like doubt as to the reliable character of one part of the Scriptures, will soon lead to the same state of mind as to the whole. Impressions of distrust thus stand on the threshold of positive unbelief. The most effectual way of being freed from both states of mind is, on the one hand, to bear in mind the lawful sphere of science, and, on the other hand, to have a thorough and well-defined knowledge of the foundations and causes of the various controversies which have clustered around the introductory portion of the Word of God. It is hoped that the remarks which follow will be helpful to this.

The expression, "In the beginning God created the heaven and the earth," was, up to a comparatively recent date, held to include the creation of the orbs of the sky, and of all the living things formed during the six days' work, and to imply that these latter were the only living forms that ever had an existence in relation to the earth. In a word, it was almost universally believed that the body of the earth—that every beast, and bird, and reptile, every tree, and bush, and herb ever on its surface—and that the sea and "all that ever passed through its paths," were created during the six days. It is true that in conducting mining operations, and in breaking up the stratified rocks for industrial purposes, men had been more or less aware of the impressions of plants and shells on the rocks; but these for generations scarcely excited curiosity. If at any time a little attention was given to them, and the question put, "What are they, and whence came they?" the answer was ever ready. It was either said, "Certain rocks and waters have the power of petrifying the plants and shells laid down in them," or, "They were buried therein by the Flood." The deluge, indeed, came in to explain every difficulty. Some, who saw farther than the crowd, felt dissatisfied with such explanations, but were only led to get rid of the question in a more summary way, by answering, "They were

created as we now see them." It does not help us to an exalted estimate of the influence of mere knowledge in overcoming prejudices and in conducting to enlarged views of the ways of God, to find this last mode of disposing of the difficulty able to reckon on one or two advocates even in recent years. When, however, geology began to be studied as a science, and when its votaries hastened to chronicle its wonders and to advocate its claims, the whole of intelligent Christendom became alarmed. "The earth," said the geologists, "cannot as a whole have been made in six days. We find traces in it not of one creation only, but of many, each of which must have existed for great ages, world on world, whose history must have been as millions to the hundreds which have elapsed since Adam appeared on the earth with the present order of nature accompanying him." The learned were stricken with terror; even theologians lost their temper, and churchmen control over their words! The only class who seemed to have been little moved were those who had accepted Christianity as a life more than as a creed, and Christ as their surety rather than as the author of a system of truth. Science, but especially geology, was denounced from the press and from the pulpit as "science falsely so called." Its students were generally held to be profane and infidels. The poet spoke of them as those who

> "Dig into the bowels of the earth, to prove
> That He who made the world, mistook its age."

The light now breaking in was too bright for the prevailing ignorance, and the immediate result was what, in like circumstances, it has ever been. Galileo is put to the torture, and forced to denounce the Copernican system of the earth's motion as a lie. Columbus is declared a heretic by the doctors of Salamanca, when he opens up his views as to the existence of a continent far away to the west of those headlands of Lusitania from which he loved to look out on the ocean. And the geologists who came forth, towards the end of the last century and at the beginning of the present one, to open up correct views of the earth's crust, find themselves in the very heart of abuse. As the Brahmin smashed the microscope which revealed to him living things amidst the vegetables that formed a main portion of his daily food, so the men of that day sought to destroy the young science. But in vain. Its students held on the even tenor of their way, fearlessly declaring what their eyes had seen, and leaving it to the theologians to form their views of facts which the geologists found it impossible to doubt, and, for truth's sake, inexpedient to conceal. All honour to the theologians

who opened their arms and heartily embraced the students of the "Book of Stone." But for the large and comprehensive views of men like Chalmers, Buckland, Conybeare, Sedgwick, and Fleming, christianity and geology, instead of walking in harmony as they now do, would, to the shaking of the faith of thousands, have been held directly inimical the one to the other. Recent thinkers have at last come to see, how much the cause of the highest forms of truth is indebted to the men who, in the face of great opposition and much obloquy, continued to pursue their investigations, unmoved by the charges of atheism thoughtlessly brought against them. They were indeed laying solid foundations for arguments on the side of Christianity, more effective in demolishing the subtilties of Spinoza, and the flimsy speculations of Hume, than are hundreds of volumes of metaphysics.

It is almost impossible in our day to form a just estimate of the grave character of the circumstances which met thoughtful men, when, for the first time, they were called to consider the seeming antagonism between the "two Records." On the one hand, they considered the church to be in a great measure pledged to the views of creation to which reference has been made; and, on the other hand, they were met by proofs of the earth's antiquity, which none but men blinded by prejudice could call in question. They saw enough, however, to anticipate that accumulation of proofs which now presents itself to every man, at all informed even in the literature only of science.

Perhaps the best way to bring out the difficulty, is to look at it from the point of view of present information regarding the constitution of the body of the earth. The prevalent belief, so late as 1820 to 1830, was that every form of animal life, or of vegetation ever on the earth, was made during the days described in Genesis. But geology reveals to us stratified fossiliferous rocks alone, between sixty and seventy thousand feet thick at least. These are laid down in layers, and are found in series which succeed each other in the same order. Their relative age can thus be somewhat correctly determined. It is true that in many cases great blanks occur, but these blanks can be filled up by taking into account the existence of the missing rocks, as they are to be met with in other areas with their associated strata. And their absence can be explained by taking into account the influence of volcanic action, of water and of weather wear, or denudation, and the like. These rocks contain traces, less or more numerous, of animal life and of vegetation. Some of them had been formed in deep seas, and others in quiet inland lakes; some indicate the beds of great rivers, and others mark spots

where, in the course of great ages, mighty morasses had been formed, or where extensive plains had stretched out in fertility, swarming with novel forms of life. There had been many successive creations before that one associated with Eden and the creation of man; and during the great epochs of their existence, many thousands of species of animals and of plants, which have now no representatives, had lived and died. They passed not away, however, before their history was written on the great pages of the "Book of Stone"—on the rocks where they looked their last, and then ceased from among the living.

Here then were questions of the gravest import for every man who acknowledged the Bible as the word of God! "Is there," as infidelity was in a haste to allege, "conflict between the testimony of the word and the testimony of the rocks?" In answer to this, one theory of creation and another were put forth. A review of these must be interesting. It will bring the different theories together, and will clear the way for the illustration of the opening chapters of Genesis, according to the plan of this work. In order, however, to make the remarks intelligible to readers who have not had time, or opportunity, or inclination, to give themselves to the study of geological science, it will be necessary to look more closely at the various rocks of which the crust of the earth is composed—using the current word *crust* to denote as much of the earth as man has become acquainted with, which may be estimated at about a four-hundreth part of the whole.

"The animal body," wrote Addison, in one of those delightful papers in the *Spectator*, which have more than his other works secured for him a name in English literature, "the body is an object adequate to our senses. It is a particular system of Providence that lies in a narrow compass. The eye is able to command it, and by successive inquiries can search into all its parts. Could the body of the whole earth, or indeed the whole universe, be thus submitted to the examination of our senses, were it not too big and disproportioned for our inquiries, too unwieldy for the management of the eye and hand, we should see the same concentration and subserviency, the same necessity and usefulness, the same beauty and harmony in all and every of its parts, as what we discover in the body of every animal." The hindrances, which the essayist imagined in the way of our ever attaining a correct knowledge of the body of the earth, are being gradually put aside. We already know very large portions of it, as well as we do the different parts of the body of man or of beast. The results, too, are everywhere what he anticipated they would be, if the knowledge could be got. Everywhere

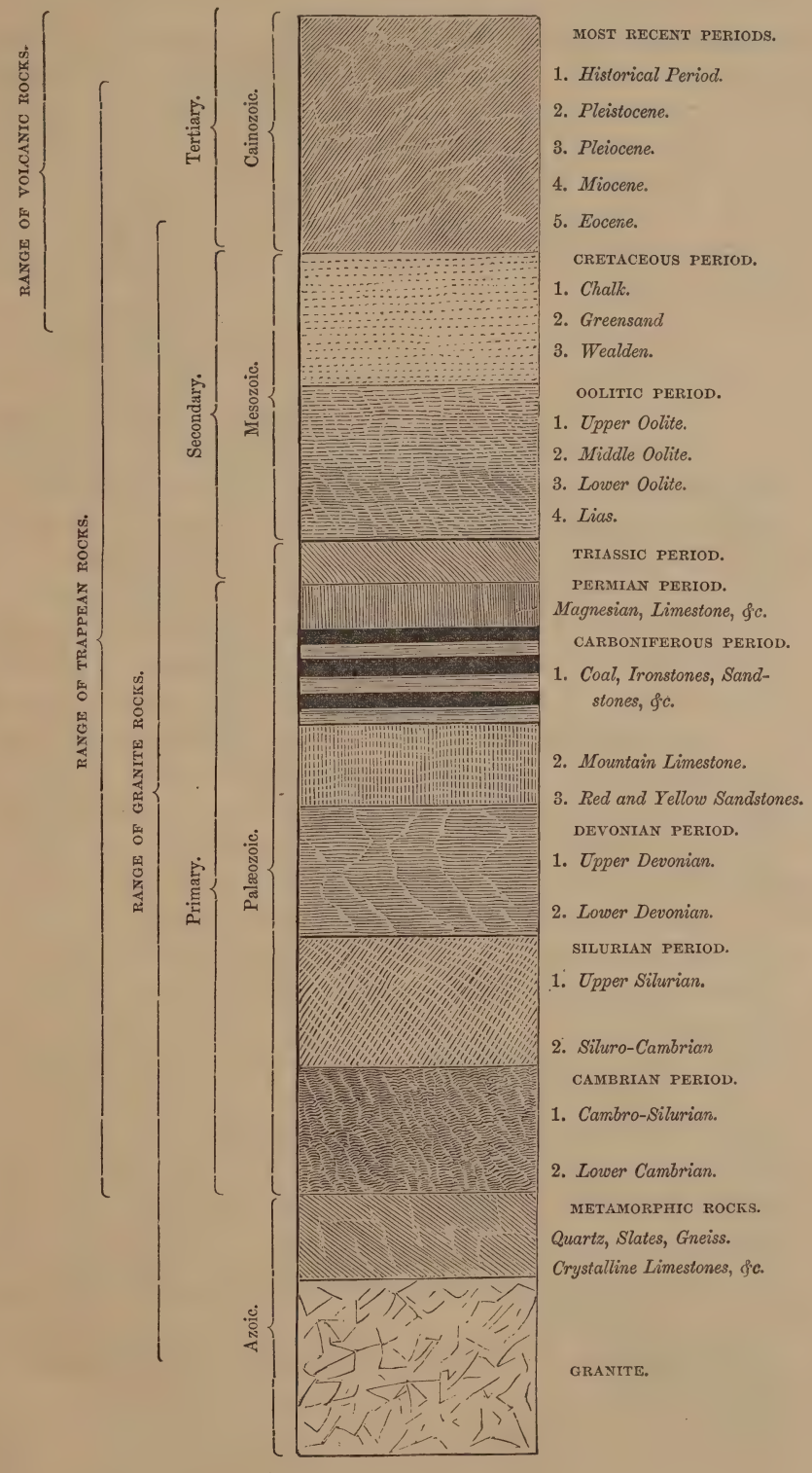
beauty and harmony are apparent. But in this case, as is too frequently found, increase of information has led to increase of controversy. The basis of knowledge has been widened; but, as the relation of the different departments which rest on that basis have not been finally determined, men find ready occasion for discussion, for analysis of opinions, and for setting forth new theories. Yet all is not uncertainty. There are certain broad grounds, on which even parties otherwise in opposition can stand in harmony. These may now be pointed out. Meanwhile it is to be kept in view, that in indicating the subjects on which all well-informed geologists are agreed, the platform of harmony has been reached in very different ways, and by processes which are themselves not beyond question.

The first point of general agreement is the great antiquity of the earth, contrasted with the comparatively recent appearance of man. The whole period lying between the creation of Adam and the present day is but as an hour, when compared with the great ages which had finished their course before fruitful Eden was realized, and the bright sun looked down on the symbolic trees—the tree of knowledge and the tree of life—which the Creator had placed in the midst of the blissful garden. We speak of millions of years having, as they passed, cast their shadows athwart the brightness of that eternal *now*, in which the uncreated and eternal God ever liveth; but such words do no more than beguile us into the pleasant imagination that in using them we have come nearer to a well-defined understanding of these great epochs than we had done before, and in the excitement of imagination reflection sinks into abeyance. In reality, however, sober science will help us in this more than all our imaginings. Try and realize the time required for the deposition of a foot of mud over the whole extent of the bottom of any of our inland lakes, and, having made the calculation and obtained the product, extend it to, say, ten or fourteen thousand feet, which is the roughly estimated thickness of the Old Red Sandstone alone. This process will do more to bring us to the edge, at least, of realizing the immense time required for the formation of all the stratified rocks, than the most eloquent efforts even of the poets could do.

Another point of general agreement among geologists is, that the rock which lies nearest the earth's centre, and which may be regarded as forming the foundations of the earth, is *granite*. The following diagram will show at a glance the order in which strata are held by competent men of science to follow each other:—

Ideal Section showing the succession of the great Epochs, and the range of the so-called Igneous Rocks.

Fig. 1.



Looking on granite as the rock which lies at the base of all the other rocks of which we have certain knowledge, and tracing the various deposits which overlie it, we get a view of the composition of the earth's crust. It is nevertheless to be kept in mind that this remark does not extend to all granite. There is proof that in some quarters it is not older than the coal measures; in others it is even of much more recent date. Different masses also vary a good deal in their structure and chemical characteristics.

It would be out of place here to enter on any of the theories which have been urged in regard to the mode in which this rock had been formed—whether by the action of fire or of water. Enough for present purposes that we have proof, that it is composed of minerals which may have singly been the main constituents of rocks which lay nearer the beginning than the oldest members of this one did. We, however, can get no standing point nearer the origin of the material earth than this. But even there we meet with much suggestive of the presence of the all-wise and the all-powerful God. He is seen controlling mighty forces, called by himself into being and action, and making all obedient to his sovereign will. The work of rearing the earth on foundations laid by him had begun, and—for man need not shrink from the frank acknowledgment of this, or from all the consequences—the forces then created have continued in action even till this hour, subserving ever his purposes, waiting on him as ministering spirits always ready at his bidding. To the divinely-guided action of these, men have agreed to give the name of "natural law." This, which is virtually one of the modes in which God makes himself known, has been made an idol of by many, who have put it in a place of honour which he claims by whom it is unerringly guided. It has, notwithstanding, ever been as the hand by which the mind of the Almighty, as creator, found expression. Through it we see him controlling all matter, wielding its atoms in order to most remarkable results, and, while accepting the ever-varying circumstances, themselves divinely ruled, through this same natural law he makes these all subservient to sublime, beautiful, and useful ends. The most remote point then, in the history of the crust of the earth, is not less suggestive of a pre-existent Creator, than the results of the six days work are.

The relation in which the stratified rocks lie to the oldest granite may be represented thus:—

Fig. 2.

Ideal Section showing the relation of the oldest Granite to the Stratified Rocks.

The unbroken relation between the unstratified granite and the overlying stratified rocks shown in this cut, is not to be expected as constantly occurring in the field. The present is not the natural condition of the earth's crust. Forces which at different periods have been brought into terrible action, and others which have been constantly at work up through all the geologic periods, and are still at work, have broken it up at different epochs; and, as the results of volcanic action and denudation, we have the present rugged and unequal character of the surface of the earth. Granitic and trappean masses have penetrated the stratified rocks—in some instances raising them from a horizontal into a vertical position, in others forcing them into well-marked contortions, and in others pervading the broken strata, as shown in the accompanying figure.

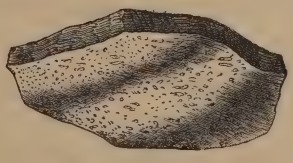
Turning from the unstratified crystalline rocks which may thus be regarded as "the foundations of the earth," we next meet, in the ascending scale, a series of deposits generally known as the primary stratified rocks. These bear evidence of having been formed from the ingredients of the great unstratified masses now naturally underlying them. And it is worthy of notice at this point, that the Creator has shown his power and his control over matter, as much in the varied results which he has produced, in bringing the action of natural laws to bear differently on the same substances, as he would have done by direct and absolute acts of creation. The strata now under notice supply an illustration. There is not the least likelihood that these rocks were created as they now are. Matter sufficient for their formation was already stored up in the unstratified granitic masses, and all that was needed was the exposure of these to the wearing power of heat and cold, to prevailing atmospheric influences, and the action of water. Thus a process of disintegration would be begun and carried on, until the loose ingredients were sufficiently abundant to form strata of a certain thickness. These, under laws everywhere at work around us, would in time assume

Fig. 3.

the stratified character which they now have. Thus too, by the accumulation of the loose particles of granitic rocks under one condition, we obtain the well known gneiss; under another condition we have the mica schists; and under yet another condition clay slate is the result. These, with one or two more into which quartz (rock crystal) enters as a chief ingredient, are named the *metamorphic rocks*. They are so called because of the marks which they bear of having undergone a hardening process after having been naturally laid down, which has given them the appearance of having been subjected to great heat.

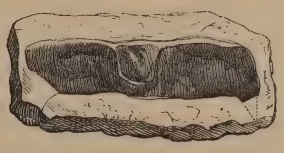
The *Cambrian series* lies above the metamorphic rocks, with which indeed they have several mineralogical resemblances, though in other respects they differ widely. It would not be profitable to enter here on the much controverted relation of this series to the highly fossiliferous rocks that next meet us in the ascending scale. This would not agree with the present design, which is not the discussion of questions in physical geology, but simply the indication of the succession of strata, in order to an intelligent acquaintance with the theories of creation which follow. In the alleged uppermost layers of the Cambrian the first traces of life on the earth are met with. The importance of bearing in mind the order in time at which one form of life and another must have been ushered into existence by the Creator, will be apparent

Fig. 4.



Arenicola didyma.

Fig. 5.



Palæopyge Ramsayi.

Fig. 6.

Oldhamia antiqua.

when it is remembered that several of the schemes of so-called reconciliation between the Book of nature and the Word of God must be mainly tried by this.

The strata in which these first traces of life appear, are known to geologists as the *bottom or Longmynd rocks*, a name given to them by those who hold that they lie at the bottom of the Silurian series; they have their chief development in Britain in the Longmynd hills in Shropshire. Whatever may be their place in the Cambrian system, there is no doubt that they lie naturally deeper down in the earth's crust, than those strata hitherto known as the Lower Silurian. The

traces of organized being now referred to, consist of what seems to be a fragment, perhaps the tail-plate, of a trilobite, a characteristic fossil of the Silurian, and the holes bored by an annelid resembling the *arenicola* or the lob-worm of our coasts, used by fishermen as bait. These are in many respects full of interest. They show that at that incalculably remote period the world existed in a condition like the present, in regard to the action of natural laws and the play of the elements. The sea ebbed and flowed on sandy shores, and the light looked down from the deep blue sky even as now. Sir Roderick Murchison has pointed out, not only that the Longmynd slab discovered by Mr. Salter, with the marks of the trail and the burrows of the lob-worm, has distinct traces of the wave ripple and of the rain drop, but also that, as may be seen on the partially dried sand of our own beaches, "the holes left by the Annelides are most conspicuous on the sheltered sides of the ripples," and that "even cracks produced by the action of the sun on a half-dried surface" are evident.

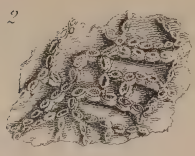
In what are regarded the equivalents in age of the Longmynd rocks in Ireland, Dr. Oldham discovered in the schists of Bray Head a zoophyte, which was named by the late Edward Forbes *Oldhamia antiqua*, in honour of its discoverer. Associated with this were abundant traces of the lob-worms and occasionally of fucoids—plants resembling our sea-weeds. The cuts given above are copied from the last edition of "Siluria," and represent the first traces of life now noticed.

When we leave the uppermost Cambrian and enter the Silurian system, we find ourselves everywhere surrounded with teeming evidences of former life. Corals, crustaceans, and molluscs everywhere abounded in its sea, which must have in many places reached a great depth. In its uppermost layers fishes have left traces of their presence, and here and there sea-weeds must have flourished, while evidences of land vegetation are at least not awanting, for a few seed cases and twigs of land plants have been detected. "The discovery," says Murchison, "by Professor Nicol of some imperfect reed-like plants in the rock (Peeblesshire silurian), with a minute vascular or tubular structure in the burnt residue of anthracite, has led to the suggestion that some sort of grassy vegetation existed on the adjacent lands during this ancient period." Well marked remains have been found at the top of the Silurian, at Stoke Edith and other places in Herefordshire, of Lepidodendra, species of gigantic club mosses, and characteristic plants of the great coal formation.

On Plate I. the figures of certain silurian fossils are given. The

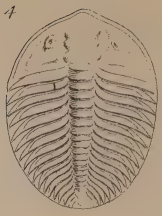
SILURIAN FOSSILS.

Cyathophyllum hexagonum.



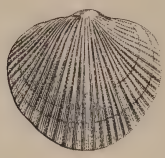
Halysites catenularius.

Calymene Blumenbachii.

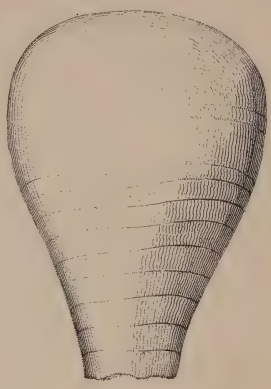


Ogygia Buchii.

Orthoceras annulatum.



Atrypa affinis.

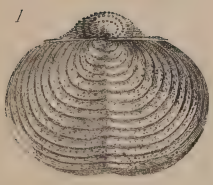


Phragmoceras pyreforme.

Pentamerus Knightii.

Euomphalus discors.

CARBONIFEROUS FOSSILS.

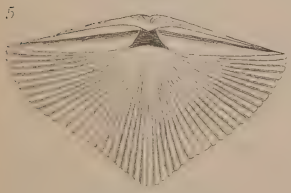


Productus punctatus.

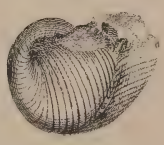
Goniatites Listeri.

Goniatites striatus.

Euomphalus pentangulatus.

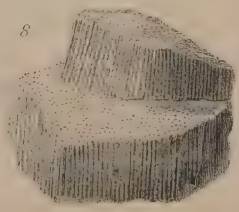


Spirifer striatus.



Bellerophon hiulcus.

Pleurotomaria carinata.



Favosites capillaris.

Syringopora geniculata.

SPEAK TO THE EARTH, AND IT SHALL TEACH THEE.—Job xii. 5; xxxviii. 4: Isa. xliv. 24: Ps. cii. 5.

corals, figs. 1 and 2, are the Cup-leaf (*Cyathophyllum*), and the Chain-pore (*Halysites*) species. These occur in the oldest strata in a state of preservation as complete as if they had but yesterday been taken from the ocean. Figs. 3 and 4 represent silurian crustacea, jointed animals like the common crab, lobster, shrimp, woodlouse, &c. Fig. 3 is the well-known "Dudley trilobite," or "Dudley locust." The name *Calymene*, or obscure, was given to it when much doubt existed among collectors as to its true nature. Fig. 4, *Ogygia*, takes its name from the same circumstance — Ogyges was a Grecian monarch who reigned at the earliest and obscure period of history. Representatives of the highest class of mollusca meet the geologist in his first researches among the early fossiliferous strata, figs. 5 and 7. These were animals whose organs of locomotion were attached to the head (*Cephalopoda*) like the Nautili of Southern seas. They inhabited a chambered shell. Figs. 6, 8, 9, represent other molluscan forms of the silurian period. *Atrypa* occurs from the Lower Silurian to the Trias; *Pentamerus* is characteristic of the Upper Silurian and the Devonian, and the whorled *Euomphalus* ranges from the Lower Silurian to the Trias.

Graptolites are characteristic silurian fossils. They are the remains of zoophytes which have left their impressions on rocks formed of fine

Fig. 7.

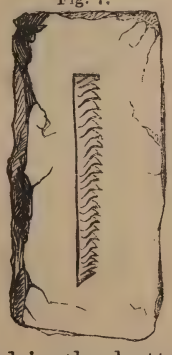


Fig. 8.

Fig. 9.

mud in the bottom of silurian seas. Bearing some resemblance to the sea-pens of the present epoch, the different species have been grouped under the name *Graptolithina* (*grapho*, I write, and *lithos*, stone). They have been classified as—1. Graptolites, *G. priodon*, fig. 7; 2. Diplograpsus, in which the cells are arranged on both sides of a central stem, *D. folium*, fig. 8; 3. Didymograpsus, or double-branched graptolites, *D. Murchisonii*, fig. 9; and 4. Rastrites, or rake-like graptolites, *R. peregrinus*, fig. 10. At the top of the silurian system lies a series of rocks known as the Lower Ludlow, Aymestry, and Upper Ludlow rocks, so named from places in Shropshire, near which

they are largely developed. In the Lower Ludlow one of the earliest forms of the star-fish (*Asteria*) appears—*Protaster Miltoni*, fig. 11—bearing some resemblance to the brittle star-fishes (*Ophiuræ*) of our seas.

Fig. 10.

Fig. 11.

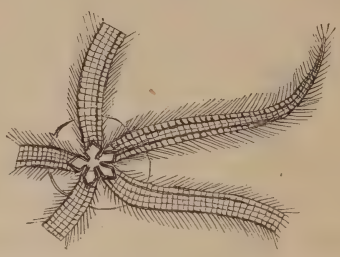


Fig. 12

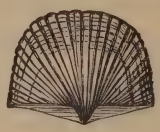


Fig. 13.

Among the numerous molluscan remains of the silurian period the bivalves, *Orthis calligramma*, fig. 12, *Modiolopsis expansa*, fig. 13, and *Avicula Danbyi*, fig. 14, may be noticed.

The first two are met with in the Lower, the third in the Upper Silurian rocks. In the Lower Silurian rocks of Scotland and of Canada a

Fig. 14.

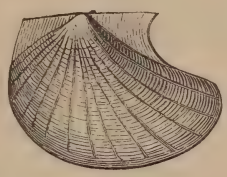


Fig. 15.

Fig. 16.

genus of belly-footed (*Gasteropoda*) shells occur, known as *Maclurea*. One of these, *M. Logani*, fig. 15, is characteristic of North American strata.

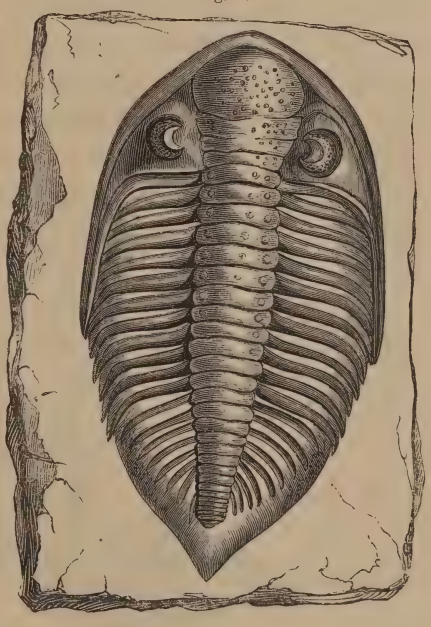
The highest class of mollusca (*Cephalopoda*) was well represented in the silurian period. Of these the British *Lituites cornu-arietis*, fig. 16, or Trumpet-formed ram's horn shell, may be named in addition to those represented on Plate I.

Two species of trilobites are also given on Plate I. One of them (*Calymene*) belongs to the Upper, the other (*Oxygia*) to the Lower Silurian. Another highly characteristic form, *Phacops caudatus*, fig. 17, or the Pea-eyed trilobite, is found in the different members of the Upper Silurian series. This form is noted because of the highly complicated structure of its compound eyes, which indicate that it lived in conditions of light similar to those enjoyed by the crustaceans of our seas.

Lying above the Upper Silurian is the *Devonian* or *Old Red Sandstone*, to the correct knowledge of which the late Professor Fleming was

among the first to introduce geologists. It has, moreover, become forever associated with the name of the late Mr. Hugh Miller, who devoted the vigour of his life and his great attainments to its elucidation. It is generally divided into lower, middle, and upper old red sandstones. In the lower may be included the Devonian, properly so called from its great typical development in Devonshire. At the bottom of the true Scottish member of this series occurs what is known as "the great pebbly conglomerate." This layer is now referred to for the sake of calling attention to the rate of deposition of certain great strata. It is formed mainly of coarse fragments of granitic rocks, and of the mud obtained by the wear of these, as they were driven against each other and tossed to and fro in a wild welter-ing ocean. "A vast stratum," says Mr. Miller, "of water-rolled pebbles, varying from a hundred feet to a hundred yards, remains in a thousand different localities, to testify of the disturbing agencies of this time of commotion. The hardest masses which the stratum incloses—porphyries of vitreous fracture that cut glass as readily as flint, and masses of quartz that strike fire as profusely as steel, are yet polished and ground down into bullet-like forms, not an angular fragment appearing in some parts of the mass for yards together. The debris of our harder rocks, rolled for centuries in the beds of our more impetuous rivers, or tossed for ages along our more exposed and precipitous sea-shores, could not present less equivocally the marks of violent and prolonged attrition than the pebbles of this bed." When the time of calm came, the heavier portions would settle down first, the coarser mud would fill up the gaps between the rounded pebbles, and the finer and lighter earthy matter would subside last. Thus it is still found in similar circumstances. But this whole process is suggestive of modifications on the current method of calculating the time necessary for the deposition of rocks. The prevalent error on this point consists, not so much in claiming immense periods for the formation of the fossiliferous strata of the earth's crust, as in determin-

Fig. 17.

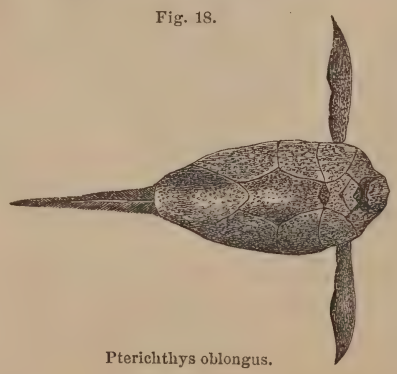


ing that in all cases it must have been equally slow, and then reasoning on this theory, as if it were true in fact and applicable to every portion of mud laid down in the bottom of our inland lakes, or left by our rivers on the way to the sea. Yet on this principle conclusions have recently been formed as to the length of the human historical period, from observations made in the valley of the Nile and elsewhere, which, as shall be shown, is wholly unwarranted.

Looking at the rock now under notice, we can see that, if the ocean at any one period contained in its waters in a state of wild unrest, all the material necessary for its formation, the time required for laying it down, when it became calm, would be comparatively much shorter than it could have been had the soil needed to be floated by rivers into the ocean. In the former case, the action of one year would show a greater result than that of ten thousand years in the latter. It is not indeed alleged that the epoch of the Old Red Sandstone was brief. The rounded pebbles and the vast thickness of the strata tell a very different tale. These remarks are made simply with the view of indicating, that in all cases we are not necessarily shut up to the "immense period theory."

The distinctive fossils found in the Old Red Sandstone are fishes. *Pterichthys oblongus* (fig. 18) was discovered by Mr. Hugh Miller in the north of Scotland. "Imagine," he says, "the figure of a man rudely drawn in black on a grey ground, the head cut off by the shoulders, the arms spread at full, as in the attitude of swimming, the body rather long than otherwise, and narrowing from the chest downwards, one of the legs cut away at the hip-joint, and the other, as if to preserve the balance, placed directly under the centre of the figure, which it seems to support. Such, at first glance, is the appearance of the fossil." Another form of the Old Red Sandstone fishes is the *Coccosteus cuspidatus* (fig. 19). It is named *Coccosteus* from *kokkos*, a berry, and *os*, a bone, from the berry-like excrescences on the plates which cover its head and body. It is found in the Caithness flags. The spear-shaped form of the tail led to its specific name. Cephalaspis Lyellii (fig. 20) has given its name to a family, the *Cephalaspidæ* or Buckler-headed fishes, whose structure indicates habits like those of the sturgeon.

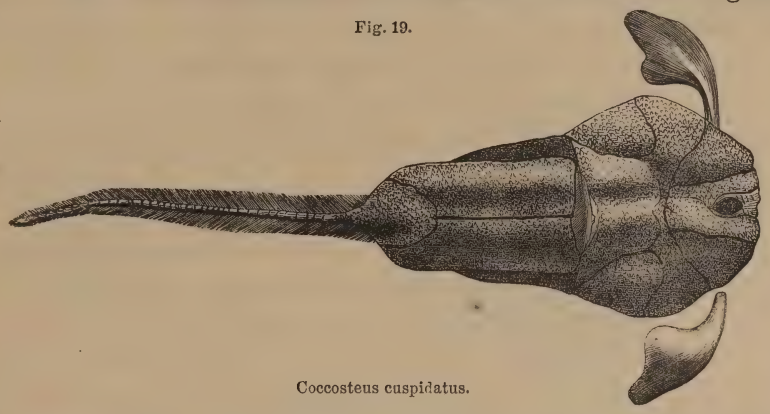
Fig. 18.



Pterichthys oblongus.

At the top of this formation, and rising into the carboniferous series is the well known *Holoptychius* (all-wrinkled) *nobilissimus*—fig. 21.

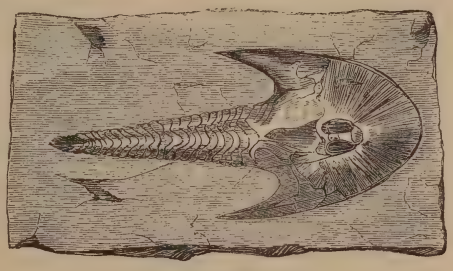
Fig. 19.



Coccosteus cuspidatus.

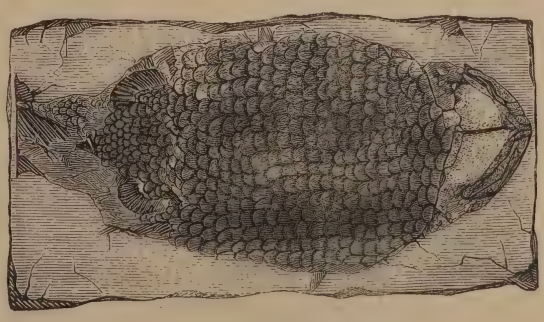
The leaves of the "Book of Stone" come now to unfold the history of higher forms of life than they have previously done. It is true that the uppermost members of the Silurian series contain the remains of fishes, but these form no distinctive characteristic of the Silurian. They come as hints of the mind of the Creator, thrown out as to what he was about to do in the next great step of manifestation—heralds of the creation which was about to be realized by him who had laid the foundations of the earth, in order to rest a series of creations on them. Remains of fish are very numerous. "They seem to have been introduced not by individuals and pairs, but by whole myriads." As to organization, too, they will stand comparison with the highest types now living in our seas. "The first created fish, like the first forms of those of other orders, was as marvellously constructed as the last which made its appearance." In variety they might almost be held to exceed present forms. Had old Du Bartas got a glimpse of the picturesque shapes of the Old Red

Fig. 20.



Cephalaspis Lyellii.

Fig. 21.



Holoptychius nobilissimus.

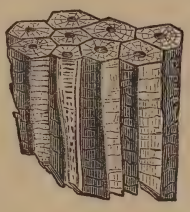
Sandstone fishes, his homely muse would have found even greater difficulty in accounting for them than he has in dealing with fish of the present seas :—

> "As a rare painter draws (for pleasure) here
> A sweet *Adonis*, a foul *Satyre* there:
> Here a huge *Cyclop*, there a *Pigmè* Elf;
> Sometimes, no less busying his skilfull self
> Upon some ugly Monster (seldom seen)
> Than on the picture of fair *Beautie's Queen:*
> Even so the Lord, that, in his Work's variety
> We might the more admire his powerful Dëity;
> And that we might discern by differing features
> The various kindes of the vast Ocean's creatures;
> Forming this mighty Frame, he every kinde
> With divers and peculiar signet sign'd."—(1580.)

The usual way of indicating the next great series in the ascending order, is to group together several distinct formations under the one name *Carboniferous*, on the ground that the rocks so named bear evidence, in the middle members of the series, of immense quantities of carbonate of lime in the ocean, and in the highest and lowest members of carbonic acid gas in the atmosphere. On Plate I. specimens of carboniferous corals are shown in figs. 8 and 9. *Favosites* is so called from its honeycomb-like appearance. It occurs in the Silurian, Old Red Sandstone, and Carboniferous systems. *Syringopora*, or Pipe-pore coral, fig. 9, is, in many respects, like the Organ-pipe coral of the Pacific. Fig. 1 represents a family highly characteristic of this series of strata, the *Productidæ*, which are met with in great numbers in the limestones of the period, but which also occur in the Old Red Sandstone and Permian. The Ammonite family, figs. 2 and 3, range from the Devonian to the Chalk. They have no true representatives in recent seas. The *Bellerophon*, fig. 6, was a single-chambered shell, remotely allied to the modern Glass-shell (*Carinaria*). More than twenty species occur in the mountain limestone. *Pleurotomaria*, fig. 7, ranges from the Lower Silurian to the Chalk. Among recent shells the nearest resemblance to it is found in the well known Top-shell of our coasts (*Trochus*). The bivalve, fig. 5, is met with in great abundance in carboniferous strata. It obtains its name, *Spirifer*, or Coil-bearer, from a hard spiral process which occurs inside of the valves, and which was used by the living forms to sustain and move the hair-fringed arms of the mollusc. The following cuts represent other characteristic forms.

The *Lithostrotion* is met with in the mountain limestone. It was a zoophite which grew in clusters. Each animal inhabited a six-sided pillar-like stalk—a number of which formed a colony.

Fig. 22.



Lithostrotion Striatum.

Fig. 23.

Productus Giganteus.

This *Productus* is one of the best marked and best known of the family. The *Pleurorhynchus* is more rare.

Fig. 24.

Pleurorhynchus aliformis.

Fig. 25.

Ammonites Communis.

Fig. 26.

Sphenopteris affinis.

But the chief characteristic of the great carboniferous period is the abundant and luxuriant flora of the coal measures. Some of the forms

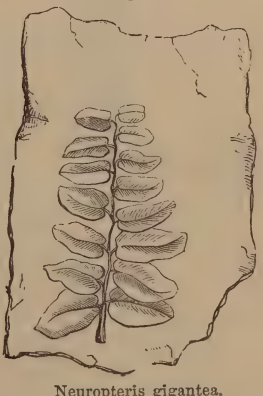
Fig. 27.

Cyclopteris dilatata.

Fig. 28.

Pecopteris heterophylla.

Fig. 29.

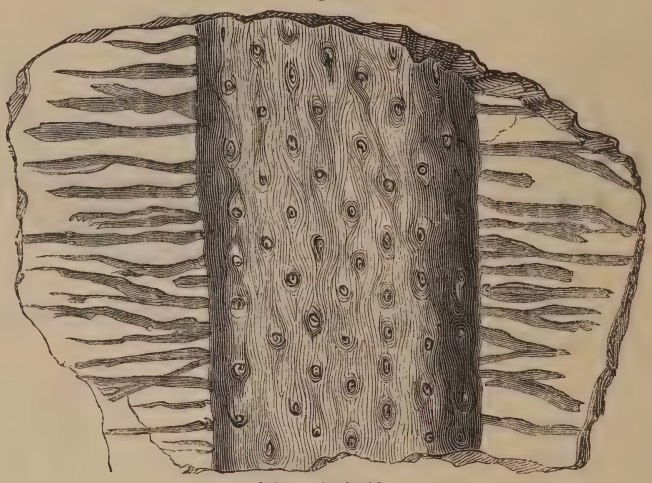


Neuropteris gigantea.

are as distinctly marked by their beauty as others are by their bulk and strength; of the former the ferns supply striking illustrations.

Some of the trees of the coal period must have reached a great size. The roots of several are of frequent occurrence. Of these the well known stigmaria presents many features of interest.

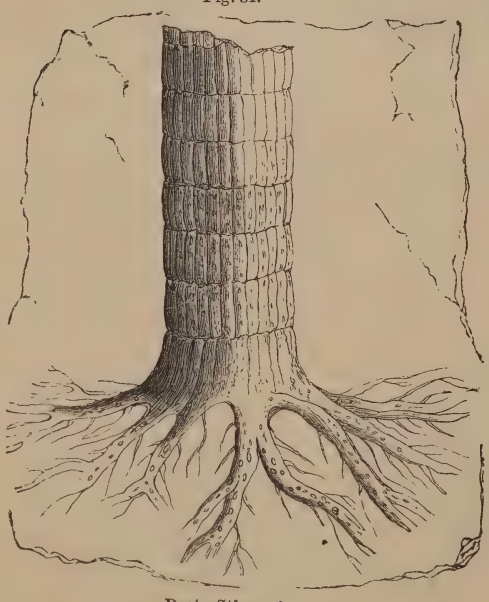
Fig. 30.



Stigmaria ficoides.

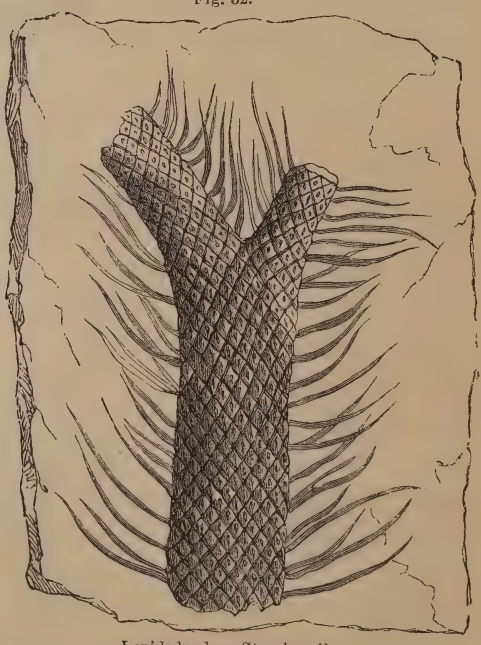
Stigmaria was the root of the Sigillaria, a dicotyledonous plant abundant in the coal epoch.

Fig. 31.



Root—Stigmaria.

Fig. 32.

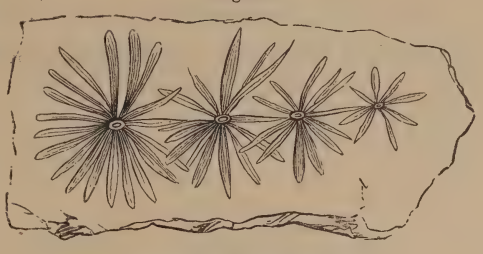


Lepidodendron Sternbergii.

Fig. 31 represents the root (*stigmaria*) and the stalk of the Sigillaria. Another form plentiful at the same time was the Lepidodendron.

The Lepidodendra are generally held to have been gigantic club-mosses, which when fully developed attained to between fifty and sixty feet in height, and between five and six feet in breadth. Another, but much lower kind of plant met with in the strata in which those mentioned abound, is known as Asterophyllites—so named from the starlike leaves which, as in equisetum, surround the joints of the stem.

Fig. 33.



Asterophyllites equisetiformis.

The usual mode of classifying the rocks of this system, when regarded apart from local peculiarities, is to range them under four divisions, namely, the Upper Coal Measures, the Millstone Grit, Mountain Limestone, and Lower Coal Measures. These again are associated with shales, sandstones, ironstones, and, in some cases, with characteristic fresh-water deposits. The limestones have been formed in deep seas or in estuaries; the coal measures have been formed on land, and everywhere bear evidences of animal life and of vegetation, which could only have existed in connection with great swamps, and with a tropical climate. The vegetation must have been most luxuriant, consisting, however, mainly of lower forms, analogous to our ferns and reeds. A few resembling present cone-bearing trees have been discovered, the proportion being as one to a hundred. The leading characteristic of the fauna of the coal measures is, that we here meet with remains of air-breathing reptiles, though not for the first time, yet in circumstances which admit of no doubt as to the strata in which they are found.

In rocks hitherto held to belong to the true Old Red Sandstones, remains of an air-breathing reptile—*Telerpeton Elginense*, fig. 34—were discovered some years ago. Very recently traces of another—*Hyperodapedon Gordoni*—have been brought to light in the Elgin rocks, but doubts have come to be held as to the true age of the layers in which they were imbedded. Though it is most likely good reasons will be found for keeping the rocks in the place originally assigned to them in the geologic scale, yet these animal remains may be regarded from the same point of view as the straggling traces of plants in the same strata; and it may be affirmed that the writing on the rocks bears testimony to the appearance of air-breathing reptiles, at the same time with the plants which give distinct character to the coal measures. This fact

should be kept in mind in all attempts to harmonize the six days of creation with the fossiliferous strata. Here, too, insects are met with for the first time.

The stratified rocks which we have thus generally reviewed in their ascending order may be roughly estimated as at least fifty thousand feet thick, and giving, as has been done, the greatest possible prominence to the traces of past vegetation in them, it must be acknowledged that there is really no warrant as yet to associate the strata underlying the coal measures with a period characterized by the presence of many plants. Corals, molluscs, and fishes constitute the palæontological features successively of those great epochs.

Fig. 34.

I have been thus careful in referring to the older deposits, because several of the best known and, perhaps, most influential theories of creation are linked up with them. But in order to an intelligent appreciation of these theories, it is not necessary to dwell so long on the other series of rocks of which the crust of the earth is composed, until we come to the highest of all, which, as being nearest the human historical period, has come to have great importance attached to it. Taking our stand in imagination on the surface of the carboniferous group, and looking back as far as thought can find a resting point on matter—the point which lies on the threshold of that past eternity in which the Uncreated had ever been—the words of the psalmist seem full of significance (Ps. xcv.) :—

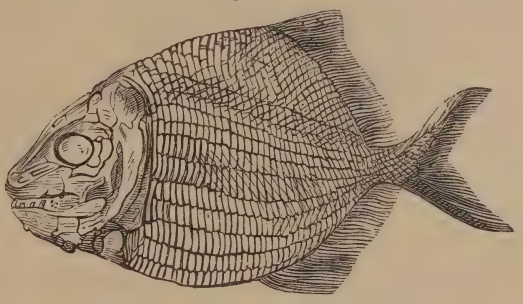
> "Let us come before his presence with thanksgiving,
> For the Lord is a great God,
> And a great King above all gods.
> In his hand are the deep places of the earth;
> The strength of the hills is his also.
> The sea is his, and he made it:
> And his hands formed the dry land."

And looking up from our imagined standing point to the present epoch and the introduction of man, the very changes which this earth has witnessed bear testimony to the presence and the watchful care of a faithful Creator :—

"There rolls the deep where grew the tree;
O earth! what changes hast thou seen.
There, where the long street roars, hath been
The stillness of the central sea."

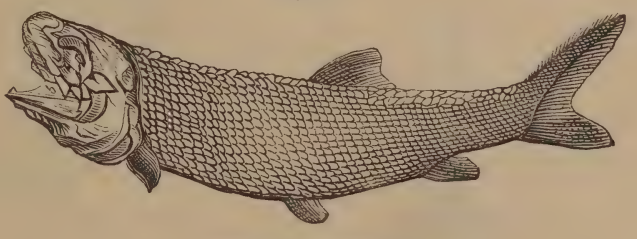
The next group, as we ascend, is the Permian, so called from its having its typical development in the Government of Perm, in Central Russia. It is known also as the New Red Sandstone, and consists of layers of magnesian and other limestones, marls and red sandstones, containing numerous fossils. Though an independent place in the geological system has rightly been assigned to it, this group may be regarded as connected with the underlying carboniferous, to the plants and animals of which its fossils bear much resemblance, while in these respects it has nothing in common with the overlying beds of the trias. In its flora are found sea-weeds, reeds, ferns, club-mosses, palms, and cone-bearing trees. "After," says Murchison, "balancing the whole of the botanical evidence, Göppert concludes with Brongniart and Morris, that this flora *differs from all other fossil floras*, and marks strikingly the close of the palæozoic times, of which it retains the family impress, whilst it is rigidly separated from all the vegetable products of secondary age." Its fauna consists of corals, sea urchins (one species), molluscs, fishes (between fifty and sixty species), with unequally lobed tails (*heterocercal*)—in which the spine is seen prolonged into the upper lobe, as in living sharks and sturgeons—and of reptiles more highly developed than those of the carboniferous, from which indeed, as has been pointed out by Owen, they relatively differ, the reptiles of the coal measures having relations with the frogs, while several of those of the Permian are suggestive of the crocodilian types. Associated with them are others resembling those of

Fig. 35.



Platisomus striatus—*Carb.* and *Permian.*

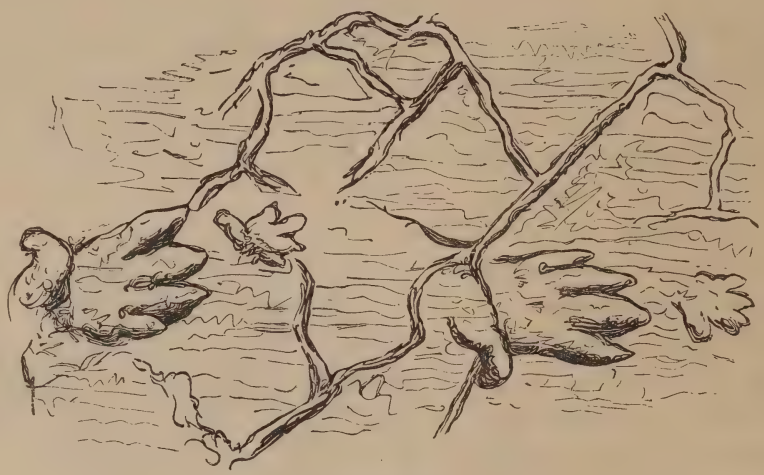
Fig. 36.



Palæoniscus Frieslebeni.

the coal measures. The remark made as to the fishes of the Old Red Sandstone is equally true of the reptiles of the Permian. They bear

Fig. 37.



Reptilian Footprints.

witness to a structure as complex, elaborate, and complete as do any reptiles now living.

Yet higher forms of life are met with in the trias. The coming mammals and birds of epochs posterior to the triassic, are heralded by

Fig. 38.

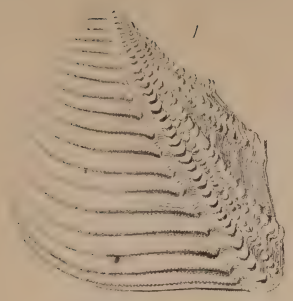
Apiocrinites rotundatus—*Oolite.*

Fig. 39.

Libellula—*Oolite.*

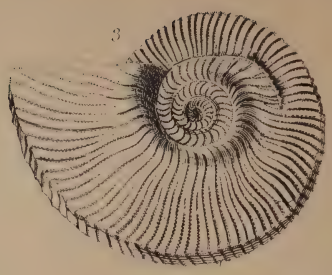
those met with in this group of strata. One small insect-eating quadruped (*Microlestes*) is known to have lived at that remote period; and, if

OOLITIC FOSSILS.

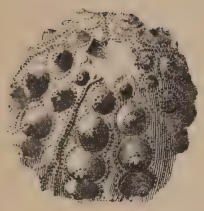


Trigonia costata.

Ammonites Walcotii.



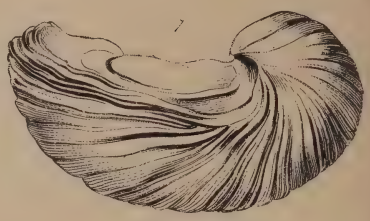
Ammonites calloviensis.



Cidaris internedia.

Clepeus clunicularis.

Pholadomya Murchisoni.



Gryphœa incurva.

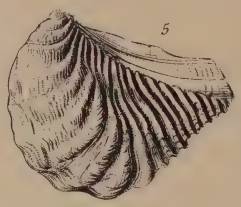
CHALK FOSSILS.

Pecten quinquecostatus.

Spongia cribrosa.

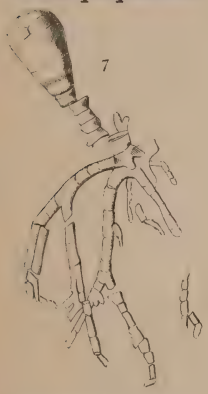
Marsupites Milleri.

Inoceramus sulcatus.

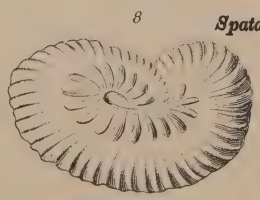


Trigonia alæformis.

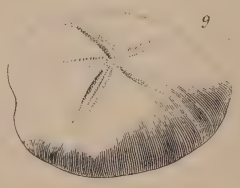
Catillus Brognarti.



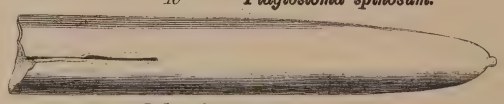
Apiocrinus ellipticus.



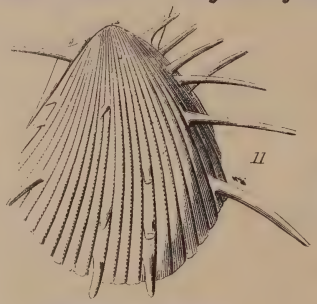
Scaphites costatus.



Spatangus cor-anguinum.



Belemnites mucronatus.



Plagiostoma spinosum.

Ammonites varians.

TERTIARY FOSSILS.

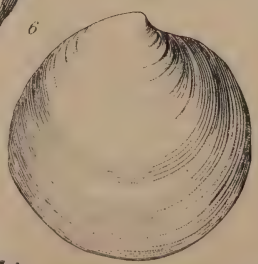
Voluta dubia.

Dentalium striatum.

Venericardia planicostata.

Fusus bulbiformis.

Emarginula reticulata.



Cytherea lentiformis.

Turbo littoreus.

Scalaria foliacea.

Murex tubifer.

Cyprea avellana.

Trochus agglutinans.

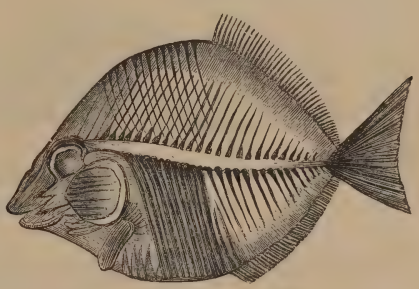
Fusus contrarius.

SPEAK TO THE EARTH, AND IT SHALL TEACH THEE.—Job xii. 5; xxxviii. 4: Isa. xliv. 24: Ps. cli. 5.

the sandstones in the valley of the Connecticut River, which contain so many footprints of birds, are to be regarded as underlying the Lias, the likelihood is that their age is triassic. Land plants, molluscs, fishes, and reptiles have also left numerous traces of their presence in the strata of the trias. The most remarkable reptilian form of the triassic age was a great aquatic lizard, which has been named Nothosaurus, or spurious lizard — a name indicative of the uncertain place at first assigned to it in the zoological scale.

Next in the ascending order comes the Oolite, named by Sir Charles Lyell the Jurassic, from having its typical rocks on the continent of Europe, in the Jura mountains. It contains many well-marked varieties of strata, which are all included under the general divisions Lias, Oolite—lower, middle, and upper—and Wealden, and is between two and three thousand feet thick, fig. 39. This series abounds in fossils, land plants of many entirely new genera, marine and fresh-water shells, uncouth-looking amphibious flying reptiles, and great carnivorous land lizards. If we associate the American sandstones referred to with this series, huge wingless birds must have frequented the borders of its quiet lakes, or strolled along the sea-washed margins of its sandy shores.

Fig. 40.



Pycnodus rhombus—*Oolite.*

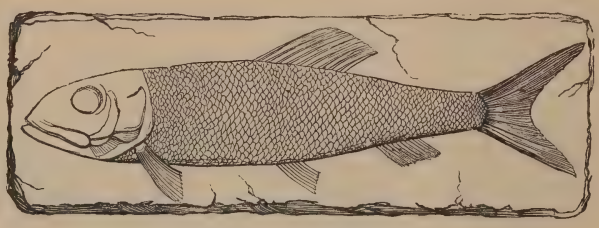
It is, moreover, especially worthy of notice, in connection with the most recent and able exposition of the age theory of creation, that in what is known as the middle Purbeck layers, lying at the top of the great Oolite division, remains have recently been discovered of species of the higher type of mammals, namely, the placentals, or those born with all their parts complete, and suckled from true breasts, as our dog and cat are, and distinguished from the lower type, or the marsupials, which after birth are nourished in a *marsupium* or pouch, like the kangaroo and opossum of the present epoch. Figs. 2 and 3, on Plate II., represent two of the ammonites of the Oolite. *Trigonia*, fig. 1, ranges from the trias to the chalk. It resembles the common mussel in the mode in which its shells are closed. This bivalve ceases as a fossil with the close of the chalk, and reappears in certain similar recent forms in the waters of the Pacific. *Gryphæa*, fig. 7, is closely allied to the common oyster. It is characterized by a hinge knob strongly

incurved, and by the disproportionate size of its left valve. The right one is much more like a lid than a true valve. *Pholadomya*, fig. 6, has two equal valves—narrow at the hinge, broad and gaping at the front. Figs. 4 and 5 represent sea urchins of the Oolite period.

The reptiles of the Oolite present several remarkable forms; such as the Pliosaurus which takes its name from its strongly marked lizard-like features and is distinguished from another gigantic sea-lizard, and the Ichthyosaurus, so called from its resemblance to the fish type of life.

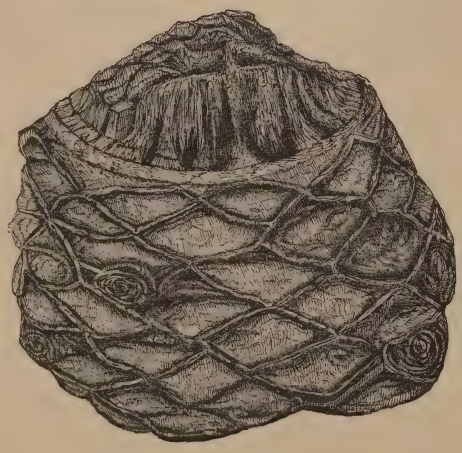
The Chalk or cretaceous system lies above the Oolite. Representatives of all the forms of life met with in the underlying system abound in this formation, except those of mammals and birds. If traces of these have been found, they are so faint and indistinct as to be unworthy of being set down as characteristic forms. The great majority of the generic forms of life of the chalk became extinct at the close of that epoch. This remark, indeed, is applicable to the fossils of all the great formations. The chalk yields a great number of beautiful forms. —(Plate II., figs. 1–12—Chalk fossils.) The representatives of several of these in lower and older strata have been noticed. Fig. 11, Belemnites, is highly characteristic of the Oolite and chalk. It has served the same purpose in some of the forms of life kindred to the recent cuttle-fish, as the so-called "pen" of the cuttle-fish does to it.

Fig. 41.



Leptolepis sprattiformis—*Oolite.*

Fig. 42.



Cycadeoidea megaphylla—*Wealden.*

The last series in the ascending order is the Tertiary. In this many forms occur which are ranked among living species, or are identical with them. This fact led Sir Charles Lyell to the now universally accepted classification of the strata of the tertiary system. The lowest layers are distinguished by the appellation Eocene, or the dawn of recent species, because only a few of these

are found in them. The layers immediately overlying are named Miocene, or less recent, because, while recent forms are more numerous

Fig. 43.

Ichthyosaurus intermedius.—*Conybeare.*

than in the former, they are in a minority when compared with those now extinct. Above these occur the strata included under the Pliocene, in which recent shells are found in greater numbers than those now extinct. The topmost strata are denominated Pleistocene, because the molluscs of this group are for the most part the same as those which now, or very recently, inhabited our waters.—(See Plate II., Tertiary fossils, figs. 1–12.) A glance at these will be sufficient to show that the molluscan life of the tertiary period supplies many more points at which the truly geological period comes in contact with our own. The *Voluta*, fig. 1, *Dentalium*, fig. 2, *Turbo*, fig. 7, *Cypria*, fig. 11, &c., look as if their originals had been picked up on our own sea-shore.

Fig. 44.

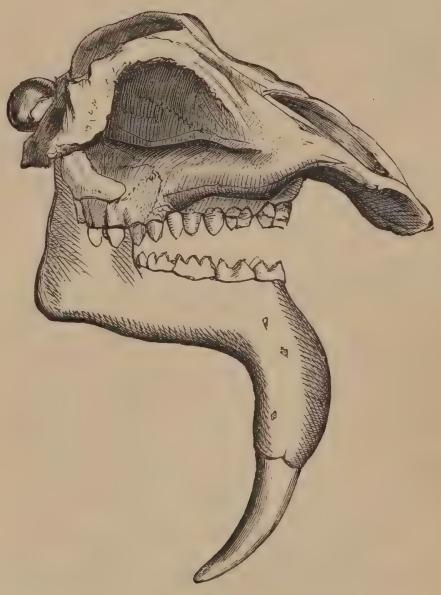
The mammalian remains of the tertiaries have had much attention directed to them recently. At the commencement of the tertiary epoch we meet with the bones of the noted Palæothere, so called from its having been regarded at the time of its discovery as the most ancient wild animal (fig. 44)

The above cut represents Cuvier's outline of the restored Palæo-

therium. The ten or twelve species which have been found in the tertaries, vary in size from that of a horse to that of a dog. Its place in the zoological scale is likely between the living rhinoceros and the tapir. Its nasal bones show that it must have possessed a short proboscis, like the latter.

Other mammalia of the tertiary series exhibit many novel forms. The huge size of the tertiary Pachydermata, or thick-skinned animals, their structural adaptations to the circumstances of their position and habits, and the missing links in the geological scale supplied by them have invested them with great interest to the student of science. Regarded as the predecessors of the elephant, the rhinoceros, the hippopotamus, &c., to which in structure they have many resemblances, much light is shed on their habits by our acquaintance with these corresponding forms of life of the present epoch. The name given to one of them still indicates the feelings of surprise with which it was regarded by naturalists when discovered—*Dinotherium*, or terrible wild beast. In 1836 an entire head of this mammal was found in the miocene tertiary in Germany, and since that period other remains have been found in France, in Switzerland, and in Perim island, Gulf of Cambay.

Fig. 45.



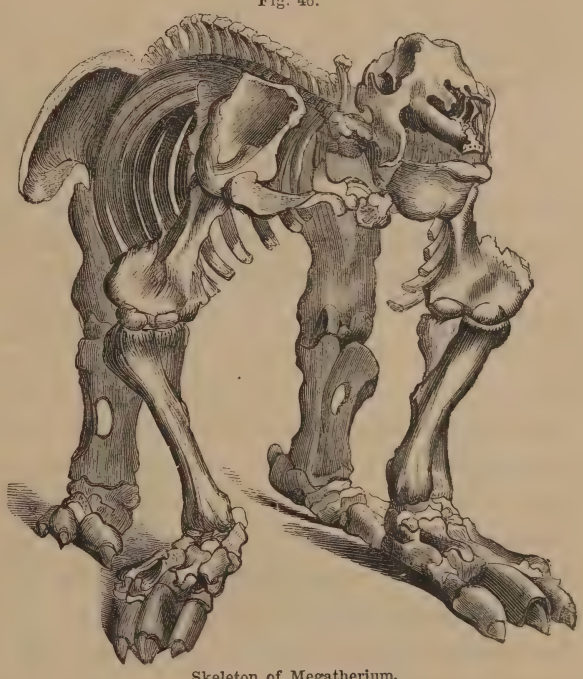
Skull of Dinotherium.

In general bodily outline, and especially in the form of some of its teeth, the Dinotherium bears a great resemblance to the South American Tapir. Even Cuvier at first considered it a gigantic species of Tapir. It has far closer affinities with certain herbivorous Cetacea, with the *Manatee* for example, an aquatic mammal ranked with the whales, but differing widely from them, both in habits and in some aspects of structure. The lower jaw, however, exhibits peculiarities which distinguish the Dinotherium from all other animals. Two great tusks are placed at the front extremity of the lower jaw. This feature in its structure would have greatly interfered with its comfort, had the Dinotherium been a land mammal. But as it must have frequented the lakes and the sluggish rivers of the miocene period, the enormous tusks would

not impede its movements in the water. Living on herbs, they would serve as huge hooks by which it tore up the aquatic vegetation. And, as Buckland has suggested, "the tusks may also have been applied with mechanical advantage to hook on the head of the animal to the bank, with the nostrils sustained above the water so as to breathe securely during sleep, whilst the body remained floating at perfect ease beneath the surface. The animal might thus repose, moored to the margin of the lake or river, without the slightest muscular exertion, the weight of the head and body tending to fix and keep the tusks fast anchored in the substance of the bank; as the weight of the body of a sleeping bird keeps the claws clasped firmly around its perch." The length of *Dinotherium giganteum* must have exceeded eighteen feet.

In the uppermost layers of the tertiary the remains of extinct animals, equally novel and interesting, have been met with. The condition of these remains, and, generally, the character of the deposits in which they are found embedded, have raised the question, May these mammals not have witnessed the introduction of the present epoch? But before a definite answer can be rendered to this question, much more information must be obtained as to the phenomena of climate, of the physical condition of the earth, &c., in connection with which the pleistocene strata were laid down, than we at present possess. The countries in which these huge mammals, which press so closely on Adamic times, are found, suggested to Professor Owen, nearly twenty years ago, the likelihood that, "in the highest organized class of animals the same forms were restricted to the same great provinces at pliocene periods as they are at the present day." Even at the time this suggestion was made there were many exceptions to it; and since that time the geogra-

Fig. 46.



Skeleton of Megatherium.

phical range of many forms has been greatly enlarged. Many which were then regarded as limited to comparatively small areas, are now found to be cosmopolites. It is, nevertheless, instructive to notice that in such an example as the Megatherium, the area over which it roamed in the pre-Adamic epoch corresponded generally with that in which the recent mammals which bear the closest structural affinities to it are to be found; as, for example, the Sloths and Armadilloes on the one hand, and the Ant-eaters on the other.

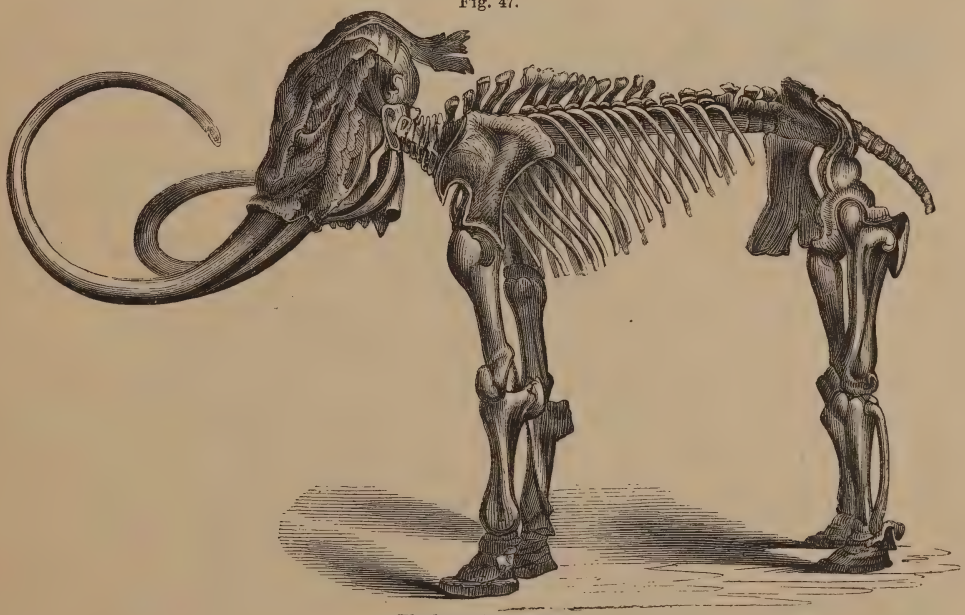
The size of the Megatherium of the upper tertiary deposits of South America, is at once seen, when we compare the measurements of its skeleton with those of the skeleton of a large Hippopotamus. The length of the former from the tip of the nose to the end of the tail is eighteen feet two inches; and that of the latter is eleven feet two inches. The height of the former, from the sole of the front feet to the top of the shoulder, is seven feet two inches; and that of the latter five feet six inches. The illustrations of the wisdom of the Creator to be met with in the structure of this huge mammal, supply peculiarly rich themes for the student of natural theology. The principle of the correlation of animal structures, which Baron Cuvier made such admirable use of in palæontology, is well seen in the examination of the skeleton of the Megatherium. In rebuilding extinct species from the scattered bones of the upper tertiaries, Cuvier laid it down as a law, "that every organized body forms a whole, a single circumscribed system, the parts of which mutually correspond and concur to the same definite action and reaction. None of these parts can change without the others also changing, and consequently each part, taken separately, indicates and gives all the rest." The application of this principle, first by Cuvier, and afterwards by Owen, Falconer, and others, has led to most interesting and valuable results. In specimens even in which many of the bones are still amissing, the building up of the animal has not been hindered; and a mere fragment of bone has been sufficient to indicate the size, the structure, and the habits of the beast or bird to which in pre-Adamic times it belonged. And, as in the case of the Megatherium, the organization of the bony skeleton has suggested to the scientific inquirer the climatology of the regions in which it lived, and the character of the vegetation which served for its support.

The Mastodon and the Mammoth were other two of the great mammals of the newer tertiary periods. They belonged to the Elephant family. The former, which takes its name from the teat-like form of its teeth, appears to have been very generally distributed over the world.

The most complete skeleton which has been found is that of the species *Turicencis*, which was dug up some years ago from pliocene deposits in Piedmont. The length of this species, from the tail to the end of the tusks, is seventeen feet. "The Mastodons," says Owen, "were elephants with the grinding teeth less complex in structure, and adapted for bruising coarser vegetable substances." When the bones of the Mastodon were first discovered, they gave rise to speculations and theories of the most extravagant and absurd kind. It was, for example, very generally believed that these were the bones of the antediluvians mentioned in Genesis vi. 4.—"There were giants in the earth in those days; and also after that, when the sons of God came in unto the daughters of men, and they bare children to them, the same became mighty men which were of old, men of renown."

But the form which brings the pre-Adamic period into closest relation with the present epoch, is that known as the Mammoth or *Elephas primigenius*. Some have held that it was characteristic equally of the

Fig. 47.



Elephas primigenius.

former and of the latter epochs. Many links yet missing must be found, before we can be warranted to hold such an opinion. An entire specimen, which is now in the museum at St. Petersburg, was discovered at the mouth of the river Lena in Siberia.

The Mammoth was covered by a reddish wool and black hairs. Its

length, from the nose to the end of the tail, was about seventeen feet; its height was above nine feet; and measuring the tusks along their beautiful curve, they were nine feet six inches long.

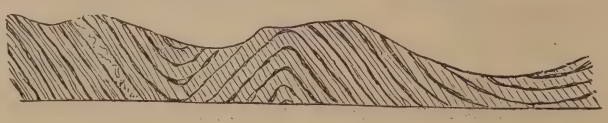
The principal object in view in the preceding sketch has been to furnish a plain and a sufficiently definite account, both of the order of strata and of the succession of life on the earth. The following diagram (Fig. 50, p. 33) has been constructed in order to present to the eye of the reader the results of the foregoing statements.

It has already been pointed out, that the principal matters of controversy regarding the earth are to be found in connection with the lowest rocks with which we are acquainted, and with the deposits which are met with at the close of the tertiary system. These must now be considered. Under the term Pleistocene is included what is known as the "Glacial Drift." At the beginning of this period there seems to have been a time of extraordinary physical action, introductory to the submerging of at least the whole northern hemisphere under water. During the continuance of this, the drift beds seem to have been deposited. This period has been held by many to harmonize with the chaos alleged to be described in the opening verses of Genesis. This leads us to the threshold of the "theories of creation" which are to be examined. There are still, however, several topics to be looked at before these can be profitably expounded.

Fig. 48.

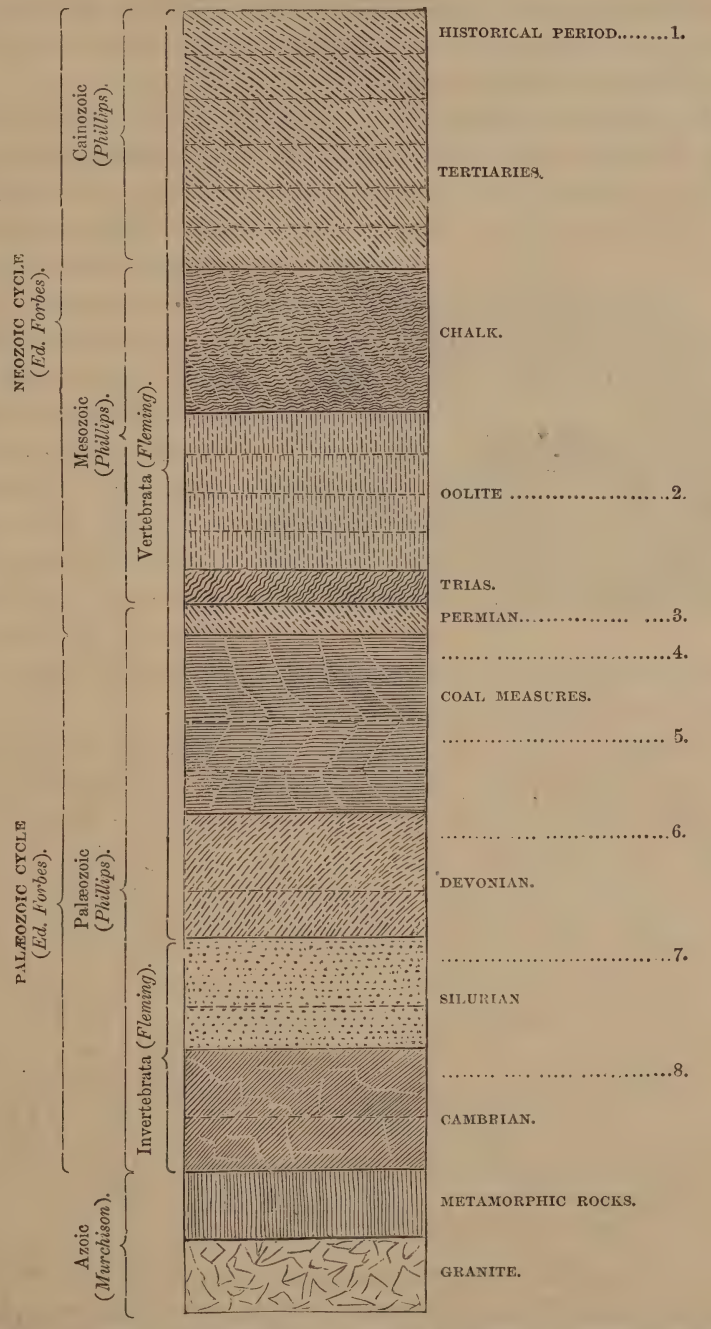
We have seen that the surface of the earth is not now in its natural condition. It has been disturbed and broken by many agencies. Had the stratification observable in all the rocks which have been formed by the gradual deposition of earthy matter at the bottom of the sea, in lakes, in deltas, in the channels of rivers, and on land, not been interfered with, it would in every case have been horizontal—that is, if the earthy matter was laid down on a bed in a line with the horizon. If not, under the direction of well known laws, inequalities would be filled up, and the stratification would ultimately show an unbroken level—it would become horizontal. This is not now the case in any but in the uppermost members of the last tertiary deposits.

Fig. 49.



Palæontological Section, showing the twofold classification of Rocks, and the Range of Animal Life.

Fig. 48.



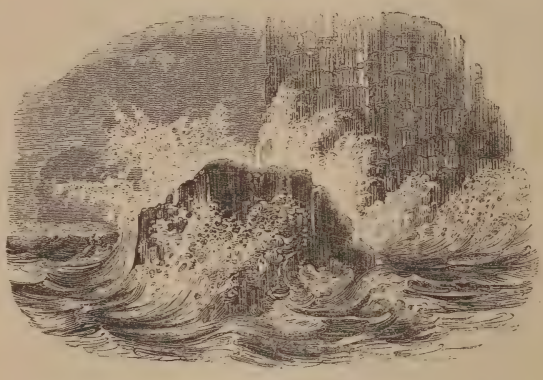
1. Man. 2. Mammals. 3. Birds. 4. Batrachians. 5. Insects. 6. Reptiles. 7. Fishes. 8. Zoophytes, Crustaceans, Worms, Molluscs.

The numbers indicate the strata in which traces of these forms of life are first found. In most cases they have representatives up to the Historical Period.

Everywhere the earth's surface has been broken. We have, no doubt, great plains, but we have deep valleys likewise. There are little hills lying quietly around us in the sunlight, and huge mountains rearing their scarred brows above the clouds, and their desolate peaks into regions of perpetual snow.

Many of these were thrown up by giant forces from the depths of the earth long after the laying down of some of the thickest stratified rocks. Millions of years after the deposition of these rocks had been completed, the volcanic forces were brought into play. While in some instances they rose up through dry land, in most others they were thrust violently through strata which had been formed in the bed of the ocean (fig. 51). Evidences of the action of these tremendous forces, which imagination could never have grasped, are made plain to the sober mind of science. Think of Alp piled on Alp until results like the Andes and the Himalayan chain are obtained!

Fig. 51.



The mode in which the overlying strata have been dealt with, during the times of such upheaval, is everywhere apparent. In some cases they have been carried gently to the mountain summits, easily as a child in the arms of a giant. In others, two masses must have risen contemporaneously in the same area—at one time squeezing between them miles' deep of well-marked strata, rudely bending and twisting

Fig. 52.

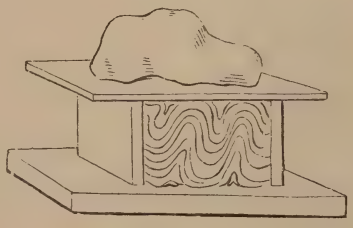


Fig. 53.

them; at another time contorting them, as the leaves of a book would be if subjected to lateral pressure, with a weight above them (fig. 52). "Movements of this kind may often be well seen among the coal measures; some coal beds having so given way before the general force,

that their component parts have been squeezed, in the manner represented (fig. 53), into the outer portion of the flexures, *a*, *a*, while the roofs and bases of the coal beds are brought into contact between them." Sometimes the upheaved masses have broken sharply off portions of the horizontal strata, and cast them to crumble away, in places in which they have stood much in the way of cut and dry geological theories. At other times they appear to have treated strata with great rudeness, making the horizontal perfectly vertical, or even almost entirely altering their order of deposition. The periods during which these disturbing agencies have continued to act, are indicated in the diagram given above. Volcanic agencies are still at work, both in the Old and in the New World. Was their action in bygone ages in all respects similar to what it has been during the historical period? If it were so, have we in this a force equal to account for such positions of the stratified rocks as those just referred to? The answer to these questions is deeply interesting, but it relates rather to certain theories in the philosophy of geology than to the subject now under review. It may be stated, however, that while the theory of gradual accumulation is more consistent than that of upheaval with what is known of present and past volcanoes, to account for such masses as Etna and Teneriffe, or even Chimborazo, only the theory of upheaval can let reliable light in upon the present positions of the stratified rocks, and their well known stratigraphical relation to trap and granite for example.

The strata, rightly named modern, have been divided into two parts —the pre-historical and the historical; the former having assigned to it all the deposits, as peat mosses, lake silts, and river alluvia, which contain in them the remains of extinct animals, and, in some instances, the traces of man—in the ancient canoes and stone implements which have been found; the latter includes all such accumulations of soil, sand, drift, and the like, as are now seen forming, or of whose formation we have distinct historical testimony. The division is not a happy one. Wherever man has left distinct traces of his presence, he has written part of his history; and it will keep our remarks free of difficulty, as well as truer to nature, to account all above the pleistocene as historical. The age of any one of these deposits, and the bearing of its contents on scriptural statements as to the antiquity of man, must, as we shall see, be determined by principles whose application to such questions is yet to be considered.

It has often been asked if we have good proof, after all, for concluding that all the climatal influences at present at work were in

operation at those incalculably remote ages at which we first meet with the traces of organic being? Were there light and darkness, cloud and sunshine, cold and heat, wind and rain, the moon walking in her brightness, the sun looking forth from the blue lift, and stars twinkling in the firmament then as now? These questions have already been in part answered, but a survey of the several great series of rocks, from the Upper Cambrian with its lobe worms and its zoophyte, up to the Tertiaries teeming with varied forms of life, must remove all doubt from this subject. There were clouds and light, ere the first cloud hung over Eden and the sun shone out in his strength on the first of our race there. If this be discredited, the testimony held to be given to the wisdom of God in nature, in the adaptations between means and end—between structure and the functions for which structure is adapted —would come to be of no value. We find creatures with eyes formed as certainly for seeing objects in the light as those of mollusc and crustacean, beast and bird, now around us are. Light then existed around them. And if plants grew and trees flourished akin to those which we certainly know cannot grow without light, we must come to the same conclusion. Let the reader stand on a gusty day on any of our shores, and when the dark cloud overhead sends its treasures of rain down on the earth, he will notice, on the half-dried sand, that all the drop marks have the same slanting direction as the rain drops seemed to have, as he saw them in the atmosphere when driven by the wind. The rain ceases, but the wind still blows; and he notices an hour after that the marks of the drops have been covered by the looser sand which had been wafted by the wind from the higher beach. Let this mass be solidified, and in breaking it up he will find appearances exactly similar to what meets him among the very oldest fossiliferous stratified rocks. The wind and the rain, and all the other agencies implied in the former case, must have been present and at work in the latter, connected with natural laws. Yet—

> "Nature is but a name for an effect,
> Whose cause is God."

Prominence thus great has been given to the answers to the question as to similarity of climatal influences and the like in past epochs and in the present, in order to bring strongly out the answer to another question of even greater importance in regard to certain theories of creation. Have we any evidences of direct interference on the part of the Creator with the alleged constancy of these operations? Up to a

comparatively recent period, most men who had devoted much attention to the relation between geology and revelation, would have answered in the affirmative. But with the reproduction of what is known as the "age theory of creation," in the late Mr. Miller's "Testimony of the Rocks," the weight of his deservedly great authority seemed to bear down every attempt to give prominence to the views which had been held by Buckland and Conybeare, Chalmers and Fleming, and with which the great name of Agassiz is also connected. A reaction is, however, taking place, which is likely to be hastened by recent views which have been brought out as to the origin of species. No candid geologist but will admit, that there are very many phenomena connected with the stratified rocks which bear testimony to periods of great and universal disturbance. "To form," says M. Agassiz, "adequate ideas of the great physical changes the surface of the globe has undergone, and the frequency of the modifications of the character of the earth's surface, and of the coincidence with the changes observed among the organized beings, it is necessary attentively to study the works of Elie de Beaumont. He, for the first time, attempted to determine the relative age of the different systems of mountains; and showed first, also, that the physical disturbances occasioned by their upheaval coincided with the successive disappearance of true faunæ, and the reappearance of new ones. In his earlier papers he recognized seven, then twelve, afterwards fifteen such great convulsions of the globe, and now he has traced, more or less fully and conclusively, the evidence that the number of these disturbances has been at least sixty, perhaps one hundred." But for the prejudice which in several quarters exists against the very mention of a chaos at any point in the past history of the body of the earth, it might be affirmed that the views urged by one of the greatest of physical geologists, leave room, not for one such state only, but for many.

In reality, the true ground of controversy as to this, is connected with the introduction of the various forms of life on the earth. As the ages which all men of science, and all theologians likewise, regard as pre-Adamic, approach the present epoch, it is found that at relative depths an increasing per centage, as has been seen, of forms of life similar to those now on the earth are to be met with. The conclusion drawn from this is, that there could be no universal destruction of life at the period when man was brought on the scene of being. This conclusion is not thrust upon us as the only one possible. There is an alternative. It is forgotten that during these periods plants and animals

entirely new to the earth were introduced—were, in a word, created, miraculously realized. All whose authority is of true value admit this. But here man introduces an element which casts shadows over his conclusions. He makes his knowledge of his own habits of action and of thought the standard by which he judges of the ways and thoughts of the Creator. Because he thinks it would have been a waste of power on the part of the Creator to reproduce, by new creation, forms that had previously lived, he concludes that this could not have been the case. But can there be waste of power when the Worker is omnipotent? All we know of his ways from the Scriptures warrant the assertion that it would not have been inconsistent with his character to reproduce old forms of life when he was, by a new creation, peopling the earth with many new ones. Thus physical geology and palæontology—the science which treats of primeval life—bear witness to the same great truths. The crust of the earth has at many different periods undergone great and violent changes, and its inhabitants have been continued by the direct work of Jehovah through successive creations. "The theory," says M. Pictet, "of successive creations is, I believe, in the present condition of our knowledge, the only theory admissible (to account for the succession of organic beings on the earth), although I am bound to add that it is by no means completely satisfactory, since it does not seem to me to account sufficiently for all the facts. It well explains the differences which exist between successive faunas, but there are also resemblances between these faunas for which it offers no explanation." The remarks now made suggest a solution of the difficulty.

While every intelligent reader of the Scriptures ought to have a well-defined acquaintance with all the points now under review, it must ever be borne in mind that the Bible has not been given to man as a handbook of science. It is the revelation of the grace of the just and holy God to sinners. Its great design is to open up to the world the scheme of redemption through the eternal Son of God as the substitute for man. This is the central truth—"God so loved the world that he gave his only begotten Son." All else made known in it is subordinate to this. The references to creation, to the works of God, to his ways with the forms of life all around men, are designed to open up to man the character of the Creator and Saviour. Thus the deep interest associated with their exposition. But with all this interest the central truth must not be forgotten. The drapery amidst which it is set before us, will truly and profitably attract us only as this is remembered. And in dealing with men's theories of creation, it must also be kept in view at every point

at which these draw their elements of strength from illustrations found in present phenomena, that there is no warrant to conclude that similar forces have always acted in the same degree. We find mud being deposited at a certain rate in well-known localities, but we are not shut up to the conclusion that in all time that must have been the rate of deposit. At least, if the duration of man on the earth is to be pushed back from six thousand years to sixty thousand, all who make such statements should be able to show that the phenomena which they believe entitle them to form such conclusions, have ever been produced in the same way. That bursting forth of the upland lake by the waste from water and from weather of the barrier which had hitherto permitted only a small stream to carry its superabundant waters to the plain below, has, as it bore along with it the soil on the slopes, in a night deposited many feet of mud where centuries had failed to accumulate an inch. That obstacle cast across the path of the stream has resulted in laying down mud over a wide area, and the soil now covered by it, which was some feet in thickness before it was put under water, assumes not the appearance only, but also the consistence of lake silt. You cast a stone into it, or a child drops his knife into it accidentally, and they sink even into the previously existing soil. Years after the barrier is removed, the surface mud is swept away, to repeat the same process in widely altered circumstances. A year passes, and a wise theorist, seeing the soil removed, reasons thus—It is a well ascertained fact that this kind of silt is deposited at the rate of about an inch in thickness in a hundred years; we have it here, however, three feet thick; therefore this old knife was laid down before the mud began to be deposited, which we have seen covered it, and consequently it must be between three and four thousand years old! Unhappily for the theorist, a lad standing by claims the old knife as one which he had dropped into the pool twelve months before. The case is not imaginary. Yet on grounds as little reliable as this, many conclusions have been come to as to the period man has been on the earth, which are, unhappily, too well fitted to shake the confidence of those uninstructed in the historical statements of the word of God.

Cuvier may be held to have first given to geologists an outline of creation fitted to meet all the requirements of their rapidly-advancing science. His broad exposition of the "proofs of numerous revolutions on the surface of the earth, and of the proofs of the occurrence of revolutions before the existence of present forms of life," in his well known work on "The Theory of the Earth," was in reality a defence of what

is now characterized as the "theory of successive creations." It is indeed true that the sketch was only in outline, but it supplies a striking testimony to the ability of the work to find, that succeeding labourers in the same field have found room in his outline for all the discoveries that have been made. It has been to the generalizations of geologists what Raphael's outlines of figures were to his scholars—a sphere within which they could find room for treasuring up the highest fruits of talent. This "Theory" had manifest theological bearings which very soon came to have much importance attached to them. The creation described in Genesis was, then, not the only one which time had witnessed. It was only the last link in a chain of successive miraculous manifestations of divine power, the first link of which lies far below what we have now come to speak of as the lowest Silurian. Living amidst the light of advanced science, it is easy for us to look calmly on such a statement; but when it was first made public it was associated with no such advantage. Theologians were wedded to old notions, and were content to accept the most absurd theories to account for such traces of former life in a fossil state as were thrust upon the notice of men, provided these did not interfere with what they esteemed the orthodox view of the first chapter of Genesis. Burnet (1681) might allege that "the whole earth at the first consisted of a uniform light crust, which covered over the abyss of the sea, and which, being broken for the production of the flood, formed the mountains by its fragments:" Woodward (1702) might solve all difficulties in regard to fossils, by alleging that, at the deluge, "the whole mass of the globe was dissolved, and the soft paste became penetrated by shells:" and Whiston (1708) might promulgate that "the earth was created from the atmosphere of one comet, and that it was deluged by the tail of another:" these, and many more and even greater absurdities might be stated, and the deluge made responsible for everything; but they were unheeded, not because of their absurdity, but because they harmonized with prevailing ignorance of the works of the Creator. But when the truth was at last seen, and when an interpretation was put on nature which, in after days, was to yield rich treasures to the theologian, as opening up a field for tracing the eternal power and Godhead of the Creator wider than had before been thought of, all who stood by the new interpretation were regarded either with secret distrust or with open hatred.

The first use of a theological kind made of Cuvier's physical generalizations, is connected with his own name. He had the discrimination to see, that his theory was in apparent antagonism to the hitherto

received views as to the meaning of the first chapter of Genesis. And he seems to have thought, that if the six days be not days of twenty-four hours' duration, but long protracted epochs, the Word and the World will be found in harmony. The late Professor Jameson, who first introduced M. Cuvier's "Theory of the Earth" to general notice, accepted this hypothesis. He says, in the preface to Cuvier's work, "The day or period between morning and evening may have been indefinitely longer than it is at present."

This hypothesis was caught at by many, mainly, it would seem, from the scope which it afforded men of imaginative natures for the gratification of their intellectual powers. But, outside of this class were very many intelligent yet simple-minded Christians who felt, that if Genesis and Geology were to be shown in harmony the one with the other, a theory was needed much more natural and much more in keeping with the meaning they had been accustomed to assign to the commonest and most familiar words. It sorted ill with all they knew of language to have days interpreted to mean epochs of immense duration, when there was no intimation in the context that they might, as in one or two passages in scripture they do, mean lengthened periods. This desire found gratification in the theory of creation which is for the most part associated with the name of Dr. Chalmers.

As if anticipating the questions which were soon to be eagerly debated, so early as 1804 his mind had been dwelling on the characteristics of the opening words of the Bible. Even at that time he held that the writings of Moses do not fix the age of the earth, but only the age of man. In the article "Christianity," written for the Edinburgh Encyclopædia in 1813, he asks—"Does Moses ever say that that there was not an interval of many ages betwixt the first act of creation, described in the first verse of the book of Genesis, and said to have been formed at the beginning, and those more detailed operations, the account of which commences at the second?" And, in a review of Cuvier's "Theory of the Earth" in 1814, he fully brought out his theory. "Should," he remarks, "the phenomena compel us to assign a greater antiquity to the globe than to that work of six days detailed in the book of Genesis, there is still one way of saving the credit of the literal history. The first creation of the earth and heavens may have formed no part of that work. This took place at the *beginning*, and is described in the first verse of Genesis. It is not said when the *beginning* was. We know the general impression to be that it was in the earlier part of the first day, and the first act of creation formed part

of the same day's work with the formation of the light. We ask our readers to turn to that chapter, and to read the first five verses of it. Is there any forcing in the supposition that the first verse describes the primary act of creation, and leaves us at liberty to place it as far back as we may; that the first half of the second verse describes the state of the earth (which may already have existed for ages, and been the theatre of geological revolutions) at the point of time anterior to the detailed operations of this chapter; and that the motion of the Spirit of God, described in the second clause of the second verse, was the commencement of these operations? In this case, the creation of light may have been the great and leading event of the first day, and Moses may be supposed to give us, not a history of the first formation of things, but of the formation of the present system."

Such, as stated by himself, is the theory of Chalmers. At the period when it was first brought clearly out, it was generally accepted by Christians as satisfactory. Whatever be its defects, it served a most important purpose for many years. The minds of theologians were set at rest, and men of science were enabled to give themselves earnestly, and without more than random charges of infidelity being urged against them, to the great work to which they believed themselves called. But for this, Christian men might have been scared from the study of geology, and the whole of that broad and, even to Christians, most interesting field would have been given up, in Britain at least, to the enemies of revelation. It is, moreover, the hypothesis which more than any other influences the mind of the church at the present time, though open to several objections. I can only indicate these. However interesting it would be to discuss them fully, to do so now would lead me away from the object especially kept in view in this outline of theories of creation. The words of scripture are, "In the beginning God created the heaven and the earth." But it is said, "if the earth in this passage includes the whole globe, this hypothesis becomes untenable; because at that time the whole earth was covered by the ocean, whereas science teaches us that at the period at which the present condition of the earth was realized, there was no general chaos." The force of this objection is greatly weakened by holding it a settled point that there was no general chaos—or, as it ought to be stated, no period of such disturbance from physical causes as would warrant the use of the words "darkness was upon the face of the deep." But, as has been urged above, this is not admitted.

Another objection to this theory is found in the ordinary sequence

of the words of scripture. It will be observed that every sentence in the first five verses begins with the word "and," as if intimating an unbroken series of acts following one another immediately in the order of time even; and, it is asked, had there been creations on the earth before the present one, if this rendering of the words is true, would the narrative have been thus continuous?" We know not how the value of this objection could be better set before the reader than by quoting Mr. H. Miller's answer to it. Mr. Miller wrote as follows in 1853:—

"Between the creation of the matter of which the earth is composed, as enunciated in the first verse, and the earth's void and chaotic state, as described in the second, a *thousand* creations might have intervened. As may be demonstrated from even the writings of Moses himself, the continuity of a narrative furnishes no evidence whatever that the facts which it records were continuous.

"Take for instance, the following passage:—'There went out a man of the house of Levi, and took to wife a daughter of Levi. And the woman conceived and bare a son; and when she saw that he was a goodly child, she hid him three months. And when she could no longer hide him, she took for him an ark of bulrushes, and daubed it with slime and with pitch, and put the child therein; and she laid it in the flags by the river's brink.' The narrative here is quite as continuous as in the first three verses of Genesis. In the order of the relation, the marriage of the parents is as directly followed in the one case by the birth of a son, as the creation of matter is followed in the other by the first beginnings of the existing state of things. The reader has as slight grounds to infer in the one case, that between the marriage of the parents and the birth of the child, the births of several other children of the family had taken place, as to infer in the other, that between the creation of matter and the subsisting creation there had taken place several other creations. And if the continuity of the narrative would not justify the inference in the one case, just as little can it justify it in the other. We know, however, from succeeding portions of scripture, that the father and mother of this child *had* several other children born to them in the period that intervened between their marriage and his birth. They had a son named Aaron, who had been born at least two years previous; and a daughter Miriam, who was old enough at the time to keep sedulous watch over the little ark of bulrushes, and to suggest to Pharaoh's daughter that it might be well for her to go and call one of the Hebrew women to be nurse to the child. It was essential, in the course of scripture narrative, that we should be introduced to person-

ages so famous as Aaron and Miriam, and who were destined to enact parts so important in the history of the church; and so we *have* been introduced to them. And had it been as necessary for the purpose of revelation, that reference should have been made to the intervening creations in the one case, as to the intervening births in the other, we would doubtless have heard of them too. But, as has been already said, it was not so necessary; it was not necessary at all. The ferns and lepidodendra of the coal measures are as little connected with the truths which influence our spiritual state, as the vegetable productions of Mercury or of Pallas; the birds and reptiles of the oolite, as the unknown animals that inhabit the plains or disport in the rivers of Saturn or Uranus. And so revelation is as silent on the geological phenomena as on the contemporary creations—on the periods and order of systems and formations, as on the relative positions of the earth and sun, or the places and magnitude of the planets."

Dr. Pye Smith seeing the full strength of the first objection now referred to, sought to save his belief in the lengthened period alleged to have been between the work indicated in the first verse and the commencement of the six days of creation, and to give an answer to those who held that generally there had been no state of universal darkness and confusion, by the hypothesis of a partial chaos. In urging this he held that the word "earth," in the second verse meant, as it does in some other passages, only a particular region—"the part of our world which God was adapting for the dwelling of man and the animals connected with him." This he represents as the part of Asia "lying between the Caucasian ridge, the Caspian Sea, and Tartary on the north, the Persian and Indian Seas on the south, and the high mountain ridges which run at considerable distances on the eastern and western flank." Dr. Pye Smith, in a word, limited chaos to the supposed region of the land of Eden. The arbitrary use of the word "earth," and the inadequacy of a partial chaos to account for the use of such language as the "earth was without form and void," will continue to make this theory even less influential in the future than it has been in the past.

This reference to the "partial chaos hypothesis" of Dr. P. Smith forms a convenient stepping-stone from the theory of Chalmers and Buckland, Sedgwick and Hitchcock, to the "age theory," now associated with the name of Mr. Hugh Miller. Not, indeed, because he was the first to form it. As has already been pointed out, the theory is not new; but Mr. Miller has expounded it with an eloquence, and illustrated

it by a lavish richness of intellectual and scientific gifts, and put it in a setting of poetic beauty unequalled in the popular literature of science. During his studies among the Old Red Sandstone series of rocks, all that he found necessary when looking at the relations between science and theology, "was some scheme that would permit him to assign to the earth a high antiquity, and to regard it as the scene of many successive creations. During the last nine years, however, he had spent a few weeks every autumn in exploring the later formations, and acquainting himself with their peculiar organisms." And he adds—"The conclusion at which I have been compelled to arrive is, that for many long ages ere man was ushered into being, not a few of his humbler contemporaries of the fields and of the woods enjoyed life in their present haunts, and that for thousands of years anterior to even *their* appearance, many of the existing molluscs lived in our seas. The *day* during which the present creation came into being, and in which God when he made "the beast of the earth after his kind, and the cattle after their kind," at length terminated the work by moulding a creature in his own image, to whom he gave dominion over them all, was not a brief period of a few hours' duration, but extended over, mayhap, millenniums of centuries." The main positions on which he insists, in trying to make good his views of the first chapter of Genesis, are—1st, that the only part of the Mosaic record with which the geologist has to do is the work of the third, fifth, and sixth days; 2nd, that the days of the Mosaic record are to be regarded as indefinitely prolonged periods; 3rd, that this record is not a history of literal events as they occurred, but a vision which appeared to Moses; and 4th, that these being so, the Geological record is in complete harmony with the Mosaic record. In giving this summary I do not wish to be held as replying to any of the theories here referred to, but simply as supplying a fair outline of them, that readers may have them fully before them. This design, however, admits of a review of their weak points.

In regard to the "age theory" as thus stated by Mr. Miller, it will be noticed that he limits his illustrations to the three days—third, fifth, and sixth, namely, "the period of plants, of great sea monsters and creeping things, and the period of cattle and the beasts of the earth." In doing this he adds—"All geologists agree in holding that the vast geological scale naturally divides into *three* great parts." Of course he refers to the Palæozoic, the Secondary, and the Tertiary periods. Without at present doing more than mention the fact, that geologists are not agreed as to the points at which these general divisions are to be drawn,

it must be borne in mind that the majority of geologists are in the habit of naming these three as convenient divisions under which other series of strata, as worthy of an independent place as they are, may be classed. And this is claimed for them on grounds which are scientifically fatal to Mr. Miller's views, even that the forms of animal life found in them are for the most part characteristic, but in some cases suggestive of the series above or below them. It will be seen that Mr. Miller takes no account of the fourth day's work, leaving that for the astronomers. But he was bound to look the fact in the face, that if there is anything sure as to the carboniferous period, it is, that the vegetation of that epoch must have had a bright sun shining on it, whereas, according to this scheme, it must have flourished for millions of years without sunlight! Indeed several of its advocates, who can never have given an hour's study to some of the plainest facts of physiological botany, broadly assert this. Again, in the, say, fifty thousand feet of fosiliferous strata underlying the carboniferous series, in which Mr. Miller finds his first age or day—the day of plants, when "the earth brought forth grass, and herb yielding seed after his kind, the tree yielding seed after his kind,"—we meet with a whole world of marine life, corals, molluscs, crustaceans, fishes, and even in their uppermost layers traces of reptiles, all of which, on the principles of the "age theory," ought to have been created after the third day. In the first chapter of Genesis they are so represented, but in the first chapters of the Book of Stone, they precede the "period of plants." This line of remark might be lengthened, but enough has been written to show that the "age theory" will not satisfy unbiassed readers.

Another scheme has recently been stated by Mr. Gosse, in the hope of meeting the difficulties of the case. This theory is styled by its author "*Prochronism*," and is illustrated by much skill and the fruits of varied zoological and botanical information in "*Omphalos*," a work published in 1857. The leading idea is, that as all the forms of life now on the earth were in the six days' work created as mature forms—the tree not as the seed, but as the full grown tree—the bird not as the egg, but as fully feathered—the mammal not as a simple life-germ, but fully formed in every part—there must have been marks of unreal development about them, in a word, marks of growth in which time had no place—marks before time, *prochronic*. The fir tree and the oak had their concentric rings, each one of which would at creation have marked, as now, a year's growth, though they had been created but a moment before. The feathers of the eagle and the redbreast would

alike bear evidences of a gradual growth to maturity, though they had just come from the hands of the Creator. Man and the beasts of the field would have marks about them which now characterize those that have lain in their parent's womb, and have attained to full development, only by a slow process. The system of unreal development, the author holds, formed a part of the plan of the Creator. Taking such views as these for a standing point, he applies the principle referred to in them to the fossiliferous strata. The marks of slow deposit in the stratified rocks, the numberless changes of generic forms of life, and the gradual evidences of development in them from the young to the full-grown organism, do not demand his acknowledgment of long protracted periods; for prochronism was the plan according to which all things were done, and all these had been created the moment before Adam opened his eyes on the world! Thus the theory, less worthy perhaps than any other of intelligent men, that God created all the fossils just as they are found in the rocks, is reproduced for our reception, because it comes with a new name, and is cleverly associated with illustrations drawn from advanced science. The general outline of it now given should satisfy us that it is wholly inadequate to meet any of the difficulties which it professes to remove.

There are several other theories of creation and schemes to account for the present forms of life, which need not be noticed here, as reference will be made to them when other passages of scripture are considered.

Is there not then any one hypothesis which may be accepted, as meeting all the wants both of geology and of the word of God? Before giving a direct answer to this question, we must inquire into the present attainments in the classification of the stratified rocks. If it can be shown that this is such as to baffle every attempt to find an exact parallel between the geologic periods and the days of creation, it will be seen that "the age theory" will not supply satisfactory standing ground. A glance at any two or three tabulated forms of classification will at once suggest, that many most important differences of opinion on this matter exist, even among highly accomplished geologists. Sir R. Murchison assigns the rank of an epoch to the earliest rocks under the name of Azoic. With what statements in the Mosaic record will this collate? Professor Phillips arranges the fossiliferous strata under three grand divisions, but the late Edward Forbes thinks they should be regarded under two. Then, is granite recognized to have the central and fundamental position assigned to it above?

"Without," says Mr. Beete Jukes, "attempting to deny that it frequently does hold this position, I am yet rather inclined to doubt whether it has not in many cases been assigned to it as a matter of course, without adequate investigation." Must, as some affirm and others deny, the Upper Cambrian of Professor Sedgwick, cease to be thus characterized, and be merged in the Lower Silurian of Sir R. Murchison? Is the uppermost bed of the Old Red to be united with the Carboniferous, or must it hold its old place as a true Devonian? Shall the whole of the present Permian, or only its lowermost division, be held to belong to the true Palæozoic system? Rising still higher in the ascending order, should the Lias, as some allege, be separated from the Oolite and have a distinct systematic place given to it? And shall we reckon the Wealden along with the Oolite or with the Chalk? At the point at which the geologic periods link into the present epoch, even graver differences obtain as to the classification of deposits.

These things are referred to, in order to show that, even in the great advancement to which the scientific study of geology has already attained, the classification of the rocks is not yet in a condition to warrant us to believe it likely that any scheme will be found satisfactory, which claims to have discovered a complete parallelism between the ages of nature, as revealed to us in the fossiliferous strata, and the days of creation described in the first chapter of Genesis. But, in making this statement, it is not to the discredit of geology. On the contrary, the generalizations which have been reached by the classification of the rocks, supply most valuable standing ground for field work, and afford us views of the deepest interest of the succession of great epochs and of the care and faithfulness of the Creator. It is only when these generalizations are made use of for other than their lawful ends—when they are regarded as fitting foundations for cut and dry sytems of creation, and for resting either theological or scientific hobbies on—that they are not found willing to tell the tale which every theorist demands. Since, however, the two records have been brought face to face, it is well to know that there is firm footing, both for the theologian and the man of science. There is so for the former, and he may lay aside all suspicions of the progress of science: there is so for the latter, and he may go on faithfully setting down everything he sees in the wide field of observation to which he has devoted himself, without even asking whether or no this or that may come to be regarded by some as unscriptural. If the theological bearings of scientific discoveries are to be thrust on the student at every step, he will be hampered continually. But if

he work in the consciousness that Christianity smiles on him, and is ready to welcome every new discovery, as shedding additional light on the ways of the Creator, the results, both to science and to the church, will be truly valuable.

The recent rapid progress of geology, and the discussions regarding its bearing on theology, have led Christians to take the side of one or other of two parties—of those, on the one hand, who are persuaded that there must be some reference in the first chapter of Genesis to the past history of the globe; or of those, on the other hand, who are equally sure that, for various reasons, no such reference is to be expected. The one party base their supposition on the likelihood that the Creator would not leave man without some allusions to successive creations, as rich as the present one in testimonies to his eternal power and Godhead. The other allege that, as the Bible is the revelation of a scheme of grace to sinners, no reference was to be expected to ages in which man had no place. It might as well have cumbered its pages, they think, with the description of the physical features of the moon, or of Saturn's rings, as with those great series of rocks which preceded the time when man was ushered into being. It seems to me that those who look for allusions to the past history of the globe, in the opening page of revelation, must not hope for it in the way proposed in the "age theory." They must be satisfied with the simple reference to it as taken into account in the scheme of Chalmers, Buckland, and others. And, as regards the value of that scheme, there does not appear any valid objection against it, either in science or in fair biblical interpretation. Its strength, however, is negative. It does not, and in the nature of the case it could not, supply positive proof that the epochs represented by the fossiliferous and non-fossiliferous rocks occupy an undefined place between the words, "in the beginning," and the words which, according to this scheme, introduced the six days' work. Any advocate of this hypothesis may still hold his ground against an opponent by alleging—"You cannot show that this could not have been so." The hypothesis is thus still of apologetic value.

But would not the path of science be less obstructed, and the cause of a sound theology much promoted, if an hypothesis can be produced which will set the two on entirely different foundations? While we plead for references to the past history of the earth, it is too often forgotten that the history of those great ages which lie between the earliest unstratified rocks and the glacial drift has been preserved.

It is "written and engraven in stone" on the rocks themselves, and it is the task of the geologist to read that writing with an unbiassed mind. There are two records. But why should it be thought necessary that the one must overlap or interlace with the other—that the past history of the globe, without the human inhabitant, must be mixed up with the history of an independent order of things, with man at its head? What, perhaps, has chiefly led to this, has been the desire to find in the opening words of the Bible a distinct denial of the eternity of matter. The heathen generally believed in this. "Creation out of nothing" distinguishes the scripture account of it from all others. The non-eternity of matter is, however, distinctly affirmed in many other passages of scripture. Take two examples:—"All things were made by him, and without him was not any thing made that was made" (John i. 3); "Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear" (Heb. xi. 3). The same almighty one who in the sovereignty of his gracious purposes "calleth those things which be not as though they were" (Rom. iv. 17), called matter into being when it was not. The protest of scripture against the hypothesis of the eternity of matter is thus clear and decided, apart altogether from the expression, "In the beginning God created the heaven and the earth." Now, in excluding the geologic periods from the first chapter of Genesis, and limiting it to the present order of things, we are not called on to discuss the controversies touching the mode in which the true account of creation was revealed to Moses. It is enough to believe that the account is a true history, written by one who was unerringly guided by the Holy Ghost in every sentence of his narrative. Documents on the same subject may have been in existence in his day. He may have been acquainted with the traditions of his fathers regarding creation. The speculations of the thinkers, Jewish and Egyptian, of his own or of bygone times, in reference to the same subject, may have been well known by him. The Spirit of God may have used his information, gathered from one or all of these sources, in making him the historian of creation, even as he did use the information of the prophets and apostles of later ages, when revealing through them the higher matters of providence and of grace. Be this as it may, we have in the first chapter of Genesis a true history of creation as it now is, and in writing it Moses was under the direct guidance of the Holy Spirit.

In glancing over the whole chapter from this point of view, a satis-

factory explanation of the controverted words can be reached only by comparing scripture with scripture. It is then affirmed, that the expression "in the beginning" does not necessarily shut us up to the belief that a reference is here made to the first act of creation, when matter and time first *became*. Does Moses ever use this word as a preface or as an expression introductory to a fuller account of something of which, however, it forms a part? "This month," he says (Exod. xii. 2), "shall be to you the beginning of months." The Jewish sacred year was, from the time of the Exodus, reckoned from the spring equinox. It began with the new moon of Abib, which answers to our April. Abib was thus regarded as the beginning month, and as forming part of the year. This use of the word still continues. "I will visit you in the beginning of the week" is a common expression; that is, on one of the days which stands as a beginning to the other days of the week, and is itself a part of the week. "In the beginnings of your months ye shall blow with your trumpets" (Num. x. 10). In the former passage the word prefaces the reference to the year; in the latter, it indicates twelve separate months. In both it is prospective, and this use of it is sufficient to neutralize any objection to a claim for a like use of it in Genesis i. But this view is strengthened by the fact that after the account of the work of the six days had been particularly noticed, the sacred writer gives a summary of the whole in Genesis ii. 1. "Thus," he says, "the heavens and the earth were finished." In a word, we have the introductory expression pointing us forward, and the expression used at the end directing us back, to those wonders of creation, the history of which lies between them. In the main, the view now indicated is well stated in a little work entitled "The Creative Week"—a volume not so well known as it deserves to be. "We are forced," says the author, "to adopt the conclusion, that 'in the beginning,' is a summary expression for the six creative days, and 'created the heaven and the earth,' another summary expression for the miraculous works done during these days. This is the natural and obvious interpretation of the inspired historian's plain, simple, and brief announcement, and the only one which restores unity and harmony to the record of creation. Nay more, it is almost the only one which would occur to an intelligent and unprejudiced reader of the Bible."

But again, it is evident that no explanation can be satisfactory which does not show a harmony between the account of creation in Genesis and the reference to it by the same inspired writer in Exodus xx.

That this view of the case exhibits the harmony will be seen by arranging the passages thus :—

"In the beginning	the heaven and the earth	God created." Gen. i. 1.
"Thus	the heavens and the earth	were finished." Gen. ii. 1.
"In six days	heaven and earth	the Lord made." Ex. xx. 11.

The Sabbath rest followed the six days' work, and the leading motive urged upon us, both in the Old and the New Testaments (Exod. xx.; Heb. iv.), to keep holy one day in seven, is drawn from God's rest on that day: "God did rest the seventh day from all his works."

Is the view now taken of the word "beginning" countenanced by other portions of scripture? It is often limited to the period when man appeared on earth, thus—"From the beginning of the world men have not heard, nor perceived by the ear, neither hath the eye seen, O God, beside thee, what he hath prepared for him that waiteth for him" (Isa. lxiv. 4). "Moses, because of the hardness of your hearts, suffered you to put away your wives, but from the beginning it was not so" (Matt. xix. 8). "Since the fathers fell asleep, all things continue as they were from the beginning of the creation." There is yet another class of passages in which it is even more definitely associated with the six days' work. "Have ye not known? have ye not heard? hath it not been told you from the beginning? have ye not understood from the foundation of the world?" (Isa. xl. 21.) "Have ye not read," said Jesus himself, "that he which made them at the beginning made them male and female?" (Luke xi. 50.) The last quoted verse sheds light on another expression which has much perplexed critics, as it stands connected with the Rest of the Sabbath—"Although the works were finished from the foundation of the world" (Heb. iv. 3). On the finishing of the works—the laying, in the six days' creation, of the foundation of the Adamic epoch—God rested, and blessed the seventh day for the rest of men.

The next subject that claims attention is the scripture meaning of the words "created" and "made." The former word is used (1) to express a work peculiar to God alone. Thus—"Lift up your eyes on high, and behold who hath created these things, that bringeth out their host by number" (Isa. xl. 26). (2) The word is also used as interchangeable with "make," "form," and "fashion." "I have created him for my glory, I have formed him; yea, I have made him" (Isa. xliii. 7). The latter word is employed to indicate the work of fashioning out of existing materials, of making ready, of preparing.

"And Abraham ran unto the herd, and fetched a calf tender and good, and gave it to a young man; and he hasted to make it (dress it). And he took butter, and milk, and the calf which he had made (dressed), and set it before them" (Gen. xviii. 7, 8). Many other verses might be quoted in illustration of this use of the words, but let us apply this latter meaning to the various clauses in Genesis i. where the same word is used, and we will at once see, that when a thing is said to be made there is no denial of its former existence. Thus of the sun and moon we are told that "God made two great lights." They had been in the sky, as we have seen, during the geological ages, but their light had become obscured:—

> "Deep was the air, and dark, substantial, black,
> An ebon mass."

On the fourth day they were made—prepared, brought out—to give light to the earth. There is then good ground for concluding that the verb "to create" is restricted to the direct acts of God, whether these imply origination out of nothing, or simply moulding existing materials, in order to results and in a way within the power of a Divine One alone; and that the verb "to make," when used to describe the doings of God, may have both the primary and secondary meanings attached to "create," as, for example, it manifestly has in Exodus xx. 11.—"For in six days the Lord made heaven and earth, the sea, and all that in them is." Here then is both the origination of life and the moulding of existing materials.

Following this line of remark, the words "heaven and earth" fall to be considered. It will have been seen that special reference has been made to the "heaven," the "earth," and the "deep." The first is employed in scripture to denote the atmosphere, the starry worlds, and the place of Jehovah's special dwelling and glory. Illustrative passages will occur to all. How is the word used in this chapter? That the atmosphere or firmament is pointed to seems beyond doubt. Thus, "God called the firmament heaven" (ver. 8)—"the fowl of the heaven" (air) (ver. 26, 27, 28). So as to the signification of the word "earth," "God called the dry land Earth" (ver. 10). The question here is not what we include in the word "earth," but what the Spirit of God defines it to be. It is no doubt afterwards used as including the seas, but this does not interfere with the restricted meaning here assigned to it. The earth, whose preparation is thus generally referred to, is described as being at the commencement of the present order of things when it lay

under the dark waters, "without form and void"—words which, perhaps, more than those already looked at, have formed the subject of endless controversy.

"And the earth was without form, and void; and darkness was upon the face of the deep: and the Spirit of God moved upon the face of the waters" (ver. 2). It has been unfortunate that the word chaos has been employed to express the state referred to in this expression, because it is intimately associated with the superstitions of heathenism, in connection with the eternity of matter in a state of confusion. In most of the controversies regarding it, the disputants have strangely overlooked the light which the use of the words in other portions of scripture sheds on the terms. In Deuteronomy (xxxii. 10) we have "the waste wilderness," literally the "wilderness without form." In Isaiah (xxxiv. 11) both words occur—"He shall stretch out upon it the line of confusion"—literally "without form;" and the stones of emptiness"—"void." So Jeremiah (iv. 23)—"I beheld the earth, and, lo, it was without form and void; and the heavens, and they had no light. I beheld, and, lo, the fruitful place was a wilderness;" the general idea in these passages being complete desolation where before life, and light, and all beauty had been. And, indeed, this is all that is demanded in order to harmonize this expression with the outline of successive creations given above. As each was introduced there was a break, a period at which the characteristic forms of life ceased, and new forms were ushered on the scene of being. And this period of transition was characterized at the beginning of the six days by prevailing darkness. The reader will mark, too, that the darkness is not represented as in the heavens, but as on the face of the deep—it brooded over the submerged earth. And it was with reference to this that the after fiat, "Let light be," was to be uttered. Whence the darkness? Science can supply an hypothesis. It can do no more. The expression is an intelligible one—"Darkness was on the face of the deep." The destruction of the refracting power of the previous atmosphere, or the prevalence of such volcanic action as, even in historic times, takes place over wide areas, would be sufficient to produce the phenomenon. Perhaps astronomy may be on the way to supply a reliable hypothesis, in the great attention which in recent years has been given to the physical constitution of the moon. What is now well known as the "Lunar theory" is becoming more and more suggestive on this point. During one revolution round the earth, the moon turns once on her own axis, and we constantly see the same side turned towards the earth. The period of its rotation on

its centre is equal to the time of its revolution round the earth. Were it not so, "the hemisphere presented to us in any semi-revolution would be opposite to that seen in the previous semi-revolution." The lunar face which we now look on when the moon is full, is the same as that on which the fire-worshippers in the days of Job gazed with awe, and before which they knelt in adoration as they saw her "walking in her brightness." At one season, however, a broader area is observed. This is at the time of what is called the moon's libration. Owing to a slight oscillation in her movement there is a narrow marginal zone on either limb of her surface. The Lunar theory accounts for this, by the supposition that the centre of the moon's figure differs from her centre of gravity. One side of the moon, it is alleged, bulges into an immense mountain destitute of life, "without form and void;" the other side is a great deep, with darkness brooding over it. May this, it is asked, not have been the very condition of our earth when the six days' work began? If the side next us be destitute of a true atmosphere, it would, as far as the surface of the moon is concerned, be dark, even though a thousand suns shone on it—an atmosphere being needed in order to refraction. This hypothesis is stated without criticism. It may, however, come to have closer bearing on the subject now referred to, than we would be warranted to claim for it at present.

"And the Spirit of God moved upon the face of the waters."—The process of preparation for an earth to be inhabited again, in circumstances and with a dweller on it more wonderful than had ever characterized preceding epochs, has begun. The Spirit of God—the *Ruach* of that *Elohim* referred to in our translation as God the Father and God the eternal Son—moved over the dark mass, doing, as the Psalmist describes it, "whatever it pleased him in the seas, and all deeps" (Ps. cxxxv. 6). Thus the mystery of the trinity in unity, the "three persons in the Godhead," meets us in the first words of that record, which reveals to us their love in their dealings with man, and which closes its wondrous story with the exhibition of their unsearchable riches of grace to a world sunk in a deeper darkness even than that described in Genesis i.—in order that, ere the time for "the first heaven and the first earth passing away" should come, man might have the spiritual qualification for "the new heavens and the new earth."

"And God said, Let there be light: and there was light. And God saw the light, that it was good; and God divided the light from the darkness. And God called the light Day, and the darkness he called

Night. And the evening and the morning were the first day" (ver. 3–5). In looking at these verses, the reader will remember the remarks already made regarding the existence of the sun. There is no reference in them to that luminary. Here the expression is so plain as to admit of only one explanation. Light which should break in on the prevailing darkness which was on the face of the deep is needed, and the command is uttered—"Let light be." Obedience was immediate —"light was." But whence this light? Was it now for the first time created? The latter question may be met with a negative, and the former may be put on satisfactory ground by the simple statement, that while we cannot arrive at absolute knowledge as to whence came the light of the first day of creation, we know that there is light which is not dependent on the sun. Growing familiarity with the phenomena of electricity, will continue to set this in new and interesting aspects. Might not a theory sufficient to remove all difficulties from this passage be found in the well-known phenomena of "Auroras?" The late Professor Nichol has remarked—"Whatever their origin, they show the existence of causes in virtue of whose energy the upper strata of our atmosphere become self-luminous sometimes in a high degree; for in northern regions our travellers have *read* by their brilliance. But the aurora is not the only phenomenon which indicates the existence of a power in the matter of our globe to emit light. One fact that must have been often noticed, forcibly impresses me with the conviction that here, through what seems common, truth of much import will yet be reached. In the dead of night, when the sky is clear, and one is admiring the brilliancy of the stars, hanging over a perfectly obscured earth, a cloud, well known to observing astronomers, will at times begin to form, and it then spreads with astonishing rapidity over the whole heavens. The light of the stars being thus utterly shut out, one might suppose that surrounding objects would, if possible, become more indistinct: but no! what was formerly invisible can now be clearly seen; not because of lights from the earth being reflected back from the cloud—for very often there are none—but in virtue of the *light of the cloud itself*, which, however faint, is yet a similitude of the dazzling shell of the sun. The existence of this illuminating power, though apparently in its debilitude, we discover also in appearance among the other orbs. Flashes like our auroras are said to have been observed over the dark hemisphere of Venus; and the obscure part of the moon is believed to have been visited by similar phenomena; but the circumstance most remarkably corroborative of the mysterious truth to which

these indications point, is the appearance of our midnight luminary during a total eclipse. By theory she ought to disappear entirely from the heavens. She should vanish, and the sky seem as if no moon were in being; but on the contrary, and even when she passes the very centre of the earth's shadow, she seems a huge disc of bronze, in which the chief spots can easily be descried by the telescope. It has been put forth in explanation that a portion of the rays of the sun must be reflected by our atmosphere and bent toward the eclipsed disc, from which again they are reflected to the earth, thus giving the moon that bronze colour; but the instant the hypothesis is tested by calculation, we discover its utter insufficiency. Nor is there any tenable conclusion save this — That the matter both of sun and planets is capable, in certain circumstances, whose exact conditions are not known, of evolving the energy which we term light; and that the atmosphere of the sun is at present under influences favourable to the high manifestation of a power which from the other orbs has not yet entirely departed. And thus for ever is broken down that supposed distinction which seemed to place our central luminary apart, in *species*, to an immeasurable extent from the humbler worlds that roll around him."

The great Creator rejoiced in the result of the command. "He saw the light that it was good," and gave it an independent place. "He divided the light from the darkness." "He commanded the morning, and caused the dawn to know its place" (Job xxxviii. 12). The light, thus divided, is called Day. The first morning on the present earth is realized. The natural day runs its course. The time of the darkness begins, it is evening, the first day has passed. The Lord himself—

> "Alternately decreed
> That night the day, the day should night succeed."

"And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so. And God called the firmament Heaven. And the evening and the morning were the second day," ver. 6–8.—It would be wholly unmindful of the great design of God in giving to man the Scriptures of truth, to demand from them the accuracy of advanced science in descriptions of the material world. Intelligent readers, however, must often have noticed the remarkable way in which many of their most striking words fit into the requirements of true science. Take the last and most scientific

treatise on meteorology, and look at these verses in the light of all it makes known of the action of light and heat on the elements which compose our atmosphere, of evaporation, and of the watery treasures which the air holds suspended in it, and you will be struck with the harmony between these phenomena and the changes described in the words which set before us the second day of creation. The firmament answers to the heaven described in verse first—the atmosphere. Here "the waters are divided from the waters;" that is, the waters treasured up in the dark clouds, which brooded like night over the deep, are elevated. Lighter clouds float in the firmament, and then too, as now, aqueous matter hung everywhere. The waters, on the other hand, which floated in liquid mass over the "deeps," touch not now the moisture in mist and cloud, and we have—

> "The firmament, expanse of liquid, pure,
> Transparent, elemental air."

"And God said, let the earth bring forth grass, the herb yielding seed, and the fruit-tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so. And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind. And the evening and the morning were the third day," ver. 9–13.—When the third day dawns, the division between "the waters and the waters" is completed. The waters under the heaven are gathered together into one place. But we have not only the fact stated; even the feelings which in the blessed Godhead accompanied it are set before us under strangely interesting lights in the scriptures. The world of men, to prepare for whom this work was progressing, lay on the heart of the eternal Son, who was anticipating the creation of man after his own likeness.

> "When he prepared the heavens, I was there:
> When he set a compass on the face of the depths:
> When he established the clouds above:
> When he strengthened the fountains of the deep:
> When he gave to the sea its decree,
> That the waters should not pass his bounds:
> When he appointed the foundations of the earth:
> Then I was by him as one brought up:
> And I was daily his delight,
> Rejoicing always before him:
> Rejoicing in the habitable part of his earth:
> And my delights were with the sons of men."—(Prov. viii.)

Order and beauty stand forth, as one adaptation and another is made. The blue expanse stretches out as firmament, where the waters are controlled by him who "numbereth the clouds of heaven." Ocean, and sea, and lake break their giant waves or gentle ripple on new formed shores. Hill and valley, mountain and plain, stand forth under the eye of the Creator, and "God saw that it was good." And when spiritual men meditate on these results, which everywhere still stand out before them, they have fellowship with the Creator's own feelings when he "saw that it was good." Thus these works of creation become steps to that altar, on which the humble worshipper loves to lay his sacrifice of praise:—

"Bless the Lord, O my soul.
O Lord my God, thou art very great;
Thou art clothed with honour and majesty.
Who coverest with light as a garment;
Who stretchest out the heavens like a curtain;
Who layeth the beams of his chambers in the waters;
Who maketh the cloud his chariot;
Who walketh upon the wings of the wind;
Who maketh his angels spirits;
His ministers a flaming fire;
Who laid the foundations of the earth,
It should not be removed for ever.
Thou coveredst it with the deep as a garment:
The waters stood above the mountains.
At thy rebuke they fled;
At the voice of thy thunder they hasted away.
They go up by the mountains, they go down by the valley,
Unto the place which thou hast founded for them.
Thou hast set a bound that they may not pass over;
That they turn not again to cover the earth."—(Psalm civ.)

The dry land, thus prepared and named, must be clothed. Accordingly one leading division of organic being is realized. At the command of God the earth is clad with luxuriant vegetation. Two views may be taken of the references to the world of plants in these verses. We may either hold that the term grass (*deshe*) is a general word used to express the herbs and trees afterwards mentioned, in which case it would include all vegetables, and the words "herb" and "tree" would apply to specific forms; or we may take the command as pointing to a threefold division of vegetation, namely, flowerless plants, herbaceous plants, and trees. It can be stated in favour of the former view, that it agrees well with the style of the Mosaic narrative. It would accord-

ingly be regarded as a summary of what follows, and would thus be analogous to the use of the term, "in the beginning," of verse first. But I prefer the latter view as being truer to nature, and as fitting better into that orderly sequence of phenomena, of which this chapter furnishes several striking illustrations. Taking, then, the leading divisions of modern botanical classification, and applying them to these verses, the arrangement would stand thus, if we bear in mind what is undoubtedly the true import of the Hebrew word rendered *grass*:—

A. CRYPTOGAMS, or flowerless plants, = *The Acotyledones*, or plants whose embryo is destitute of a true seed-lobe, as Ferns, Mosses, Sea-weeds, &c.

B. PHANEROGAMS, or flowering plants, =
1. *The Monocotyledones*, or plants whose embryo has a single seed-lobe, as Palms, Grapes, &c.
2. *The Dicotyledones*, or plants whose embryo has two seed-lobes, as the Oak, the Ash, the Elm, the so-called flowers of the field, &c.

The "grass" thus contained all the vegetation like the ferns, lichens, and mosses; the "herb" all herbaceous plants; and the "tree" all arborescent forms of vegetation, "the trees so straight and high," so graphically characterized by Spenser:—

"The sapling Pine, the Cedar proud and tall,
The vine-prop Elme, the Poplar never dry,
The builder Oak, sole king of forests all,
The Aspine good for staves, the Cypresse funerall,
The Laurell, meed of mightie conquerors,
And poets sage; the Firre that weepeth still,
The Willow worne of forlorne paramours,
The Eugh, obedient to the bender's will,
The Birch for shafts, the Sallow for the mill,
The Mirrhe sweete-bleeding in the bitter wound,
The war-like Beech, the Ash for nothing ill,
The fruitful Olive, and the Plantane round,
The carver Holme, the Maple seldom inward sound.

The question has often been put, Was the first vegetation created as seed, and each seed after its kind permitted to develop into the matured plant when the sun was brought out in his strength? The question is noticed here as one of many idle ones, which have been raised in connection with the first chapter of Genesis. But as well might it be

asked, if the first of our race was ushered into the world a helpless infant? There are matters of greater importance in the verses now under notice. The expressions—"God said;" "tree yielding fruit after his kind, whose seed is in itself;" and "herb yielding seed after his kind"—are suggestive of much that is interesting, when we remember the crude theories which have come to be associated with the progress of modern science, like the mud with the chariot wheels. One of these is well stated by Cowper:—

> "Some say that in the origin of things,
> When all creation started into birth,
> The infant elements received a law
> From which they swerve not since: that under force
> Of that controlling ordinance they move,
> And need not his immediate hand, who first
> Prescribed their course."

But the words "God said," forming, as it were, a preface to the work of each day—and "God saw that it was good," standing as the conclusion—suggests to us his presence and the forthputting of his power, during the work of the whole day; and, as it was with the day, so it is with the epoch. He continues specially present sustaining all things. The preservation of the world is a constant miracle.

The existence of well determined, fixed, and independent species is distinctly enunciated in the words "herb and tree after their kind." The scriptural view of the origin of species leads us back to creation. One species differs from another, and one genus from another, because they were created with this fixed difference. The oak is specifically distinct from the elm, because of the creative act. The one will never change into the other. The yellow pansy (*Viola lutea*) on the hill side will never become the yellow buttercup (*Caltha palustris*) in the meadow. They owe their difference to the direct act of the Creator. This will come to be considered more fully, when we have the whole six days' work before us. Meanwhile, let us notice the beautiful sequence of adaptations in the works of the days already reviewed. The darkness is broken in on, and light begins its ministry of blessing. "But still the earth offered the appearance of one vast dreary water-desert, without variety, without life, without beauty." The creative word reaches the obedient elements; the firmament is formed, that the waters above it might be fitted to do their work in the maintenance of life, and the waters below it theirs. The sea finds its place, where it is treasured up as in a storehouse waiting for the living forms of the fifth day, and

the dry land is ready for the vegetation. The atmosphere is prepared for the nourishment of the grass, the herb and tree after their kind; and, that the interchange of influence between the atmosphere and the world of vegetation now on the earth might be kept in action, and ever on the balance, there was not only day but night also. The wisdom of the faithful Creator is peculiarly evident in all this. The main constituents of the atmosphere are Oxygen and Nitrogen. The former is the chief sustainer of life, hence its name *vital air*. The latter, as destitute of this property, is termed *azote*, or that which does not supply a vital element. In addition to these, the atmosphere contains a little carbonic acid gas, a trace of ammonia, and a proportion of aqueous vapour. These elements are mixed, but not combined. One is not lost in another. The first two, and strictly speaking the true constituents of the air, always occur in a fixed proportion. This is, if reckoned by weight, in 100 parts, 77 of Nitrogen to 23 of Oxygen. The carbonic acid and the watery vapour, being much under the influence of different causes, are variable in their proportion, and the quantity of ammonia, which the ablest of modern chemists have been able to discover, is so small as to forbid a definite estimate of it. It used to be affirmed that the component elements of the atmosphere were in chemical combination — that is, so combined with each other that properties which could be affirmed of them separately were altered in virtue of their union; but this is not found to be the case. The union is simply one of mixture, and not of combination. By this arrangement, influences which would otherwise interfere with the uniform ratio of Oxygen and Nitrogen in the atmosphere are neutralized. Very much depends on this:—(1.) If Oxygen stood alone, its action would be too powerful, but it is mixed with this unvarying proportion of Nitrogen to make it ever suitable for all forms of life. (2.) If the proportion were variable, there would be a constant tendency to excess on the one side or the other, which would be as hurtful to vegetation as it would be to animal life. (3.) The succession of day and night is itself fruitful of good when associated with the maintenance of life by the atmosphere; in the day-time the vegetable drinks in, or "fixes," carbonic acid; but at night, it absorbs oxygen, and gives off carbonic acid. Thus the life balance is kept in its place. (4.) The other main constituent of the air is, as has been noticed, aqueous vapour. The varied influences for good connected with this cannot be estimated. The whole phenomena of clouds, their influence on the soil and on every kind of life, are all related to the mode in which this is held in suspense by the atmos-

phere, or sent down as "drops from heaven" to gladden the earth when it is weary. And the supply is ever renewed:—

> "All the rivers run into the sea,
> Yet the sea is not full:
> Unto the place from whence the rivers come,
> Thither they return again."—(Eccles. i. 7.)

In the review of "Theories of Creation," it was seen that the work of this day is held to harmonize with the Carboniferous period. The time between morning and morning, it is alleged, was not a day of twenty-four hours' duration, but a cycle of, mayhap, millions of years. A slight acquaintance with the vegetation laid bare to us in the coal measures, is enough to convince the unprejudiced of the distinct difference between it and the vegetation described in verses 11 and 12. This has been most graphically pointed out by Mr. H. Miller. "I have," he says, "already referred to the sombre, unproductive character of the earliest terrestrial flora with which we are acquainted. It was a flora unfitted, apparently, for the support of either graminivorous bird or herbivorous quadruped. The singularly profuse vegetation of the coal measures, was, with all its wild luxuriance, of a resembling cast. So far as appears neither flock nor herd could have lived on its greenest and richest plains; nor does even the flora of the oolite seem to have been in the least suited for the purposes of the shepherd or herdsman. Not until we enter on the Tertiary periods, do we find floras amid which man might have profitably laboured as a dresser of gardens, a tiller of fields, or a keeper of flocks and herds. Nay, there are whole orders and families of plants of the very first importance to man, which do not appear until late in even the Tertiary ages. Some degree of doubt must always attach to merely negative evidence; but Agassiz, a geologist whose statements must be received with respect by every student of the science, finds reason to conclude that the order of the Rosaceæ—an order more important to the gardener than almost any other, and to which the apple, the pear, the plum, the cherry, the quince, the peach, the apricot, the nectarine, the almond, the raspberry, the strawberry, and the various bramble-berries belong, together with all the roses and the potentillas, was introduced only a short time previous to the appearance of man. And the true grasses—a still more important order, which, as the corn-bearing plants of the agriculturist, feed at the present time at least two-thirds of the human species, and in their humbler varieties form the staple food of the *grazing* animals, scarce appear in the fossil state at all." But this description is fatal to

the author's own theory. In considering verses 11 and 12, we must take into account the summary given by God after he had created man. At the 29th verse we read—"And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat." The unfitness of the vegetation of the Palæozoic day to serve as meat for man, is too forcibly pointed out by Mr. Miller to require further remark.

There is another reference to the work of the third day which naturally falls to be considered here. This occurs in ver. 4–6 of chap. ii. "These are the generations of the heavens and of the earth when they were created, in the day that the LORD God made the earth and the heavens. And every plant of the field before it was in the earth, and every herb of the field before it grew: for the LORD God had not caused it to rain upon the earth, and there was not a man to till the ground. But there went up a mist from the earth, and watered the whole face of the ground." The vegetation of the third creative day existed for a certain time without rain. The question is often asked—How long? One answer given to this is, that the very mention of this fact, affords a strong presumption in proof that the day expressed by the morning and evening must have been an age, a long protracted epoch, for it is not likely that the want of rain on the earth "for two or three natural days would have been mentioned." This mode of criticism would get quit of many of the most interesting passages of Scripture which make us acquainted with God as one who loves to declare that his faithfulness reaches to the smallest concerns of his creatures. Another answer given is, that the rainless period was the Edenic time, when man was as yet unfallen. But this interpretation is contradicted by the narrative itself. The rainless period was when "there was not a man to till the ground." Indeed this expression contains the key to the verses. The state of innocence was associated with work. Man was to gain his livelihood by tilling the ground. He was at the very first to learn that there is true dignity in work. In this he was to have fellowship with his Maker. "My Father," said he who in the fulness of time came to restore the lost and fallen, "worketh hitherto." Means of fruitfulness were withheld, until he who was specially to profit by them and to second them by his own endeavours, was ushered on the scene. The principle of life was, however, maintained by a simple arrangement, which continues more or less active still—"There went up a mist from the earth, and watered the whole face of the ground." It is worthy of

MAP OF THE STARS.

Northern Hemisphere.

Southern Hemisphere.

2 KINGS XXIII. 5: JOB XXXVIII. 31—33: PSALM XIX, 1.

notice, that the theory of the formation of dew could not be put by modern science, in popular language, in a more correct way than we meet with it here. The mist literally goes up from the earth in the process of radiation, and the surface becoming colder, the vapour is condensed, and falls in the form of dew, in particles of greater density, to water the "whole face of the ground." The words used here are highly suggestive. It is said, "the Lord God"—Jehovah Elohim—he who is not only the almighty Creator, but the God of his people, "had not caused it to rain." This is his sovereign work.

> "Behold God is great, and we know him not,
> Neither can the number of his years be searched out.
> For he maketh small the drops of water;
> They pour down rain according to the vapour thereof:
> Which the clouds do drop
> And distil on man abundantly.
> Also can any understand the spreading of the clouds,
> Or the noise of his tabernacle?"—(Job xxxvi. 26.)

He had not caused it to rain "on the earth." Here we see again a reason for limiting the word "earth" to the dry land of the Adamic period. That it had rained on the earth at other periods, has already been shown. So deep down as the Cambrian rocks, rain-drops have left their impressions on the sands. But just as the existing orbs were not brought out at any earlier period than the third day—this form of watering the earth, though it had before been in activity, is not reproduced until there was a man to till the ground. Then it was that He who "numbereth the clouds by his wisdom," said—

> "To the small rain, and to the great rain of his strength,
> Be thou on the earth."—(Job xxxvii. 6.)

"And God said let there be lights in the firmament of the heaven, to divide the day from the night; and let them be for signs, and for seasons, and for days, and years. And let them be for lights in the firmament of the heaven, to give light upon the earth: and it was so. And God made two great lights; the greater light to rule the day, and the lesser light to rule the night, He made the stars also. And God set them in the firmament of the heaven, to give light upon the earth, and to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good. And the evening and the morning were the fourth day," ver. 14–19. In the notice of ver. 3 it was seen, that we are not shut up to the conclusion, that the

light there spoken of must have been solar light. Whatever it may have been, it was suited to the requirements of the first three creative days. This, indeed, is the main point to be looked at, as illustrative of the wisdom and goodness of God in the fitness between means and ends. As regards the verses now quoted, in which we have an account of the fourth day's work, they must be considered both in the light of what goes before, and what comes after. The grass, the herb, and the tree stood forth at first amidst the light of the first day. But all that we know of the relation between sunlight and vegetation warrants the conclusion, that the necessities of the case demanded the full realization of the solar light, in order to the permanence and growth of the plants. The relation also between plants and the atmosphere, and the influence of solar light upon both, show how the creative days depend upon and pass into each other. The same remarks may be made on the succeeding context. All the varied forms of animal life, with man at their head, were about to be created, and, reasoning from what we well know of the use of the solar light to them—its influence on animal functions, and the ends which both its luminous and heating rays subserve—we can at once see proofs of the divine wisdom, in the very place assigned to the adaptations of the heavenly bodies in the narrative of creation. Geology opens up to us world on world successively stocked by abounding forms of animal life and of vegetation, for which sunlight was as necessary as it is for those of the Adamic epoch. There is thus no way of avoiding the inference, that the orbs of heaven existed in all their beauty and brightness, and strength, then as now. And, consequently, that the words descriptive of the fourth day point to adaption, and not to creation properly so called. In verse third the expression is "Let there be light," let all-pervading light shine and illumine the region where the darkness broods. But in verse fourteenth the words are, "Let there be lights"—literally, let there be luminaries, or bodies giving light. Though these are not named here, we have a distinct reference to them in another portion of scripture as the sun and moon, which associates their bringing out with the mercy or goodness of the Creator—mercy being shown in the very time of their appearing:—

> "To him that made great lights;
> For his mercy endureth for ever.
> The sun to rule the day;
> For his mercy endureth for ever.
> The moon and stars to rule the night;
> For his mercy endureth for ever."—(Ps. cxxxvi.)

As in verse third, so here, the work begins with a summons or command. There is no reference to creating in the highest sense of that word. And at verse sixteenth the terms again used are, "and God made"—appointed, arranged, set apart for a special purpose. That purpose we are told here, being in the first place to be "for signs, and for seasons, for days and for years." The word "made" is used between one and two hundred times in the book of Genesis alone, and never in the sense of creating or making out of nothing. Illustrations of this use of the word have already been given. It has, no doubt, been alleged that this view of the force of the expression, "God made," does not even fit into the space assigned to the work in the narrative. Had it been simply a matter of adjustment, a setting apart to a special end, would we have had six verses devoted to it in this brief narrative? But if we turn to Genesis ix. 8–17, it will be seen, that in the case of the covenant of God concerning the future history of the earth after the deluge, more space is taken up with the setting apart of the rainbow, as a permanent sign of that covenant, than is done here with the appointment of the great lights. From what we know of the physical history of the earth in pre-adamic epochs, it may be absolutely asserted that there must have been rainbows before that glorious arch spanned the heavens, when the waters abated from off the face of the earth. The Preserver of all things simply took it for the first time as a sign of his grace, that not only Noah's household, but all who should come to the true knowledge of God in after times might, when they saw the bright bow lying athwart the dark cloud, remember the righteousness of God revealed against sin, and might think of his grace in saving a remnant from the world before the flood.

The peculiar phraseology of verse 17, "And God set them in the firmament," seems to imply that the relations of the orbs of heaven to each other, and especially that their relation to the earth, required to be changed in order to their adjustment to the human period. That in this language there is reference to man cannot be doubted. If they were to be for signs, they could only be so to a rational and intelligent creature. Nor are we left in doubt as to what is meant in their being for signs. They are very often referred to in Holy Writ as signs of God's sovereignty, faithfulness, goodness, and greatness:—

> "God shaketh the earth out of her place,
> And the pillars thereof tremble.
> He commandeth the sun and it shineth not;
> And sealeth up the stars.

He alone spreadeth out the heavens,
And treadeth the heights of the sea.
He maketh Arcturus, Orion,
Pleiades, and chambers of the south.
He doeth great things not discoverable,
Yea, and wonders without number."—(Job ix. 6–10.)

"He appointed the moon for seasons:
The sun knoweth his going down.
Thou makest darkness, and it is night;
Wherein all the beasts of the forest creep forth.
The young lions roar after their prey,
And seek their meat from God.
The sun ariseth, they gather themselves together,
And lay them down in their dens;
Man goeth forth to his work,
And to his labour until the evening.
O Lord, how manifold are thy works!
In wisdom thou hast made them all."—(Ps. civ. 19–24.)

"The heavens declare the glory of God,
And the firmament sheweth his handy-work.
Day unto day uttereth speech,
And night unto night sheweth knowledge."—(Ps. xix. 1, 2.)

"He telleth the number of the stars;
He calleth them all by their names.
Great is our Lord, and of great power;
His understanding is infinite."—(Ps. cxlvii. 4, 5.)

"O Lord, our Lord,
How excellent is thy name in all the earth!
Who hast set thy glory above the heavens.
When I consider the heavens, the work of thy fingers;
The moon and the stars which thou hast ordained;
What is man that thou art mindful of him?
And the son of man that thou visitest him?"—(Ps. viii. 1, 3, 4.)

Many more illustrations will occur to the reader. The last passage quoted is deeply interesting, as associating the "signs" of the greatness and goodness of God in creation with the manifestations of his grace and love in the redemption of the world, and the first Adam with the second Adam, even the "Lord from heaven." This is distinctly referred to in Hebrews ii., where the glory and yet the lowliness of the Eternal Son are spoken of, and this passage is quoted to set him before us as "Jesus," who in bringing "many sons to glory," "by the grace of God should taste death for every man." The "signs" come thus

to point to the "unsearchable riches of grace," as well as to the "manifold wisdom of God." Frequent illustrations of this will occur. Creation and redemption rest on each other, as do the two sides of the arch; the keystone is the Lord Jesus Christ.

It seems most likely then that, in the work of the fourth day, the Creator in adapting the celestial orbs, proceeded on the plan of making them of highest benefit to man, and that in carrying out this adjustment, demands were made for striking modifications in the present period, as compared with by-gone geological periods. This consideration has not been sufficiently kept in mind. It has been taken for granted, that peculiarities in the distribution of land and water, are enough to account for a fauna and flora in areas wholly unlike those found in them at present. But granting that the distribution of land and water exercises a great influence on the temperature, and even that the recent theories of M. Dové, and some other well known meteorologists, as to the influence of the proportion of either in modifying the annual temperature of certain localities, were wholly satisfactory, they would not be equal to accounting for the very great difference, say, between the present flora of Britain, and that which obtained in the same area when the coal measures were laid down. It can, however, be seen at once that those modifications on the heavenly bodies, here hinted at, in order that they might be of highest use to the plants and animals of the human period, would be sufficient to account for this difference. "Ignorant as we are," says Sir John Herschel, "of the cause of both solar and stellar light, and of the conditions which may influence its amount at different times, the law of periodicity is one which ought not to be too hastily generalized; and, at all events, the grand phenomena of geology afford, as it appears to me, the highest presumptive evidence of changes in the climate of our globe. I cannot otherwise understand alternations of heat and cold, so extensive as at one epoch to have clothed the high northern latitudes with more than tropical luxuriancy of vegetation; at another to have buried vast tracts of Europe, now enjoying a genial climate, and smiling with fertility, under a glacier crust of enormous thickness. Such changes seem to point to causes more powerful than the mere local distribution of land and water can be well supposed to have been. In the slow secular variations of our supply of light and heat from the sun, which in the immensity of time past may have gone to any extent, and succeeded each other in any order, without the violating of sidereal order, which we know to have taken place, we have a cause, not indeed established

as a fact, but already admissible as something beyond a bare possibility, fully adequate to all the requirements of geology. A change in half a magnitude in the lustre of the sun regarded as a fixed star, spread over successive geological epochs—now progressing, now receding, now stationary, according to the evidence of warmer or colder general temperature which geological researches have disclosed, or may hereafter reveal, is what no astronomer would now hesitate to admit, as in itself a perfectly reasonable and not improbable supposition." But is not the influence now referred to implied in the words of scripture? The heavenly bodies were adjusted to the human period, in order to serve for "seasons" as well as for "signs"—seasons suited for the new form of life ushered into being during the work of the six days. The influence of the solar rays on the atmosphere, the seas, and the dry land of our globe, supplies abundant material for generalizations on the points now noticed, but it would lead me away from the present purpose to do more than name them. The same remark may be made with reference to the information furnished by modern astronomy regarding the orbs specially named in the work of the fourth day. To give even a bald summary of this, would lead us too far from our special object. Opportunities will, however, frequently occur for using astronomical science in illustration of the words of scripture. Meanwhile the reader is referred to the plates illustrative of Job ix. 9, for proofs of what has been done by modern astronomers, in mapping out "the starry heavens," and in naming the "signs" into which they have divided the Northern and Southern Hemispheres. The lights were not only to be for signs and seasons, but for days and years also. The sun and the moon are specially mentioned in this connection. So that, without going into the astronomical history of these bodies, it may be useful to the reader to be reminded of a few general facts regarding them. We have seen how frequently the scriptures describe the sensations of thoughtful men of God, when they "considered the heavens"—the sun, the moon, and the countless stars. Their knowledge of them was far inferior to ours. They wondered when they, like Isaac, went out at eventide to meditate, and looked up to the starry sky. Yet their wonder ever conducted to true adoration and praise. And our clearer views of the heavenly bodies should lead to the same results. If wonder is born of ignorance, there are mysteries in abundance connected with the starry hosts, to set us alongside of the earliest inhabitants of the world in this respect, while our increase of knowledge should lead to deeper awe even than they had, when they gazed on the

evidences of the manifold wisdom of God. "God made two great lights; the greater light to rule the day." The greater light, the sun, stands first in modern science as it does in the inspired Word. Having its fixed place as the centre of a mighty system, it is 95,000,000 of miles distant from the earth. Its diameter is 882,000 miles. It has a revolution on its own axis every twenty-five days ten hours. The references in scripture to the hosts of heaven, deal mostly with their apparent movements, just as in popular language even the most accomplished astronomers speak of the rising and setting of the sun:—

> "In them hath he set a pavilion for the sun,
> Which is as a bridegroom coming out of his chamber,
> And rejoiceth as a strong man to run a race.
> His going forth is from the end of the heaven,
> And his circuit unto the ends of it;
> And there is nothing hid from the heat thereof."—(Ps. xix.)

The motions of the earth supply the true explanation of these phenomena. Its daily motion on its own axis takes place once in twenty-four hours. Thus day and night. Its yearly motion, in its course in the heavens round the sun, is performed in three hundred and sixty-five days, six hours. Thus the changes of season—"seed-time and harvest, summer and winter." Job realized the position of the earth in space when he said:—

> "He stretcheth out the north over the empty place,
> And hangeth the earth upon nothing."—(Job xxvi. 7.)

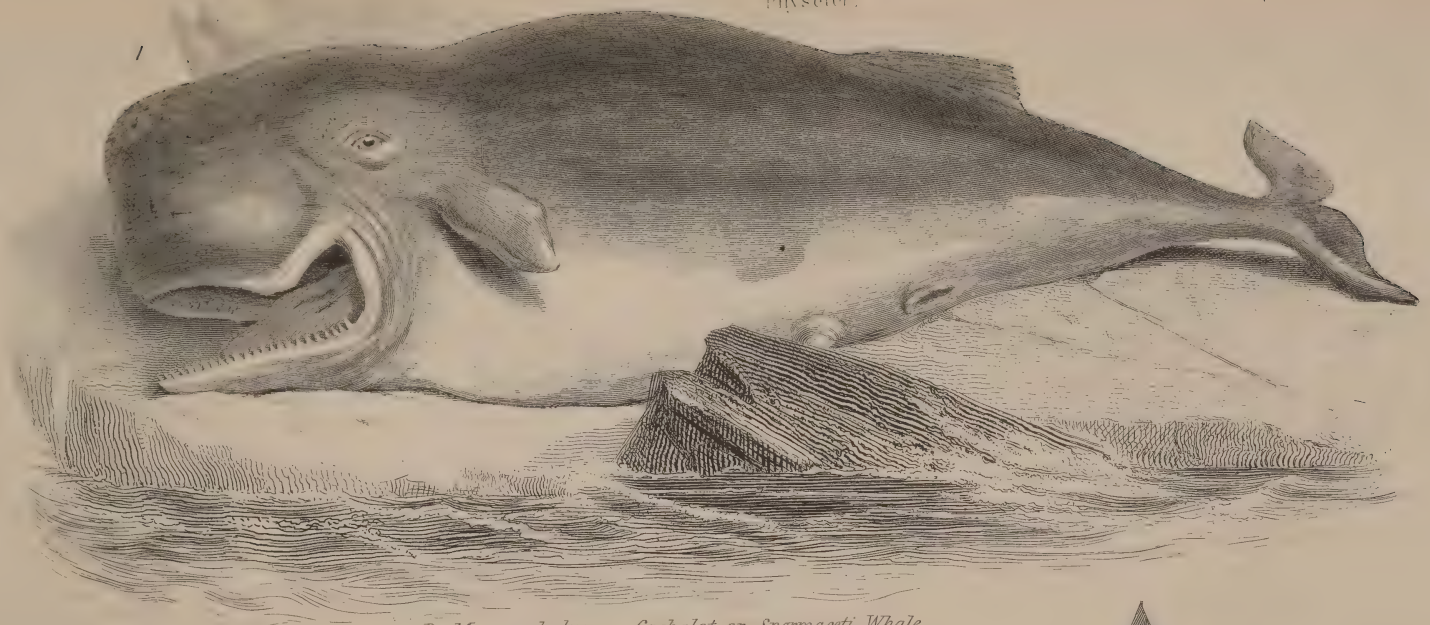
"God made the lesser light to rule the night"—the "fair moon," is about 240,000 miles distant from the earth, and has a diameter of nearly 2,000. Its motion has been referred to above. The moon's ministry of blessing will be considered under Deut. xxxiii. 14. The fourth day's work was finished. God saw that it was good. The morning about to dawn was to witness yet greater marvels of creative power.

"And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good. And God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth. And the evening and the morning were the fifth day," ver. 20–23. Some

expressions used in these verses claim attention before the animals which, on the fourth day, were called into being. As in the introduction to the other days, the creative act is preceded by the command "*Let*"—let the waters bring forth abundantly. In the English version of the scriptures, the relative pronoun "*that*," is introduced after "fowl"—"the moving creature that hath life, and fowl *that* may fly." This has led to speculations which do not say much either for the sense or the science of their authors. Resemblances between birds and fishes, such as Owen never dreamt of, have been alleged. Distinctions have been drawn between the material of which the bodies of birds and fishes are made, and that which enters into the composition of the flesh and bones of land animals, which even a very little knowledge of natural science would have shown to be absurd. All this has been done because it was thought needful to make out, for the sake of the text of scripture, that fishes and birds were made out of water, and land animals out of earth. Thus, many most anxious to vindicate the ways of the Creator have been led to question his creative power, when they believed themselves successful in illustrating it. But if the word "that," supplied by our translators, be rejected, as it seems to me the original language requires, all ambiguity vanishes, and we obtain a statement as simple as it is true to nature.—"And God said, Let the waters bring forth abundantly the moving creature that hath life; and let fowls fly above the earth in the open firmament of heaven." There is no information given regarding the material of which fish and fowl were made. We are simply shown what, in the main, was to be their sphere of existence; fish for the waters, fowl for the air. It is only when a summary of this is given in chapter ii., that we are told, "Out of the ground the Lord God formed every fowl of the air"—a sufficient answer to the water-origin theory. The words which follow harmonize with this view of the passage. Thus, if "created" be repeated in verse 21, the account would run—"And God created great whales," &c., and "God created every winged fowl after his kind." The attempt to limit the reference to "water-fowl," is not worthy of the context. Besides, it overlooks the concluding sentence of verse 22—"And let fowl multiply in the earth." In the accounts of the second and fourth days, which are specially characterized by adjustments and adaptations of previously existing materials, the work of the Creator is expressed by the terms "God made." Here the expression is different. Creative energy of the highest kind is put forth, and the Spirit of God informs us that "God created" the living things referred to.

Physeter.

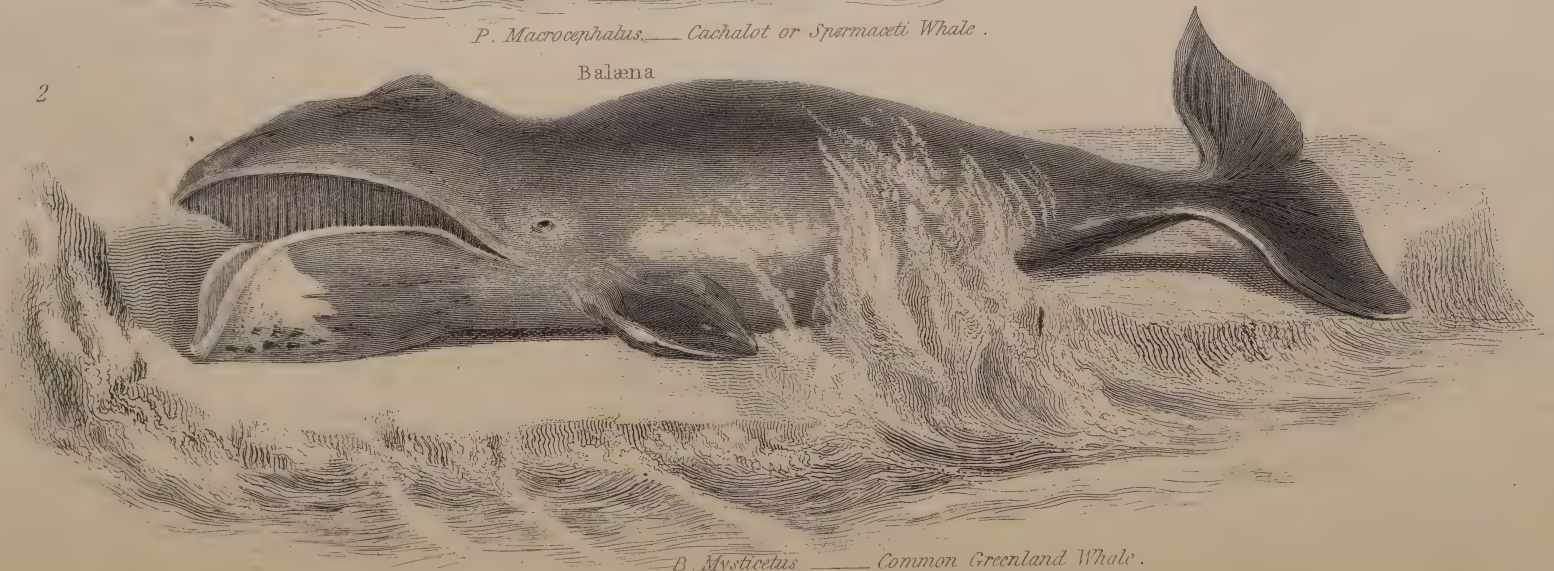
1



P. Macrocephalus. — *Cachalot or Spermaceti Whale.*

Balæna

2



B. Mysticetus — *Common Greenland Whale.*

In verse 20 the forms of life are named in general terms, as "creatures that have life" in the waters, and as "fowls that fly in the open firmament of heaven." But in the next verse a more particular statement is given in what may be regarded as a rough sketch of zoological classification. It would be absurd to compare it with the present arrangements of zoological systematists, because it occurs in a book whose scope and end are spiritual and moral, not scientific. Nevertheless, it is interesting to observe that, just as the astronomy of the first chapter of Genesis does not, if fairly considered, contradict the Copernican system, so the zoology may be harmonized with a system of classification which may be held to be the fruit of the experience and research of thousands of years. The evidence of this in a tabulated form may, however, be reserved till we come to the close of the sixth day's work.

Of the "moving creatures that have life," our translators specify whales—"God created great whales"—as the true rendering of the Hebrew word (*tanninim*). No little controversy has been waged regarding this word, and the expression "moving creature" (*sheretz*). But here, as in many other passages, the rule of interpretation has too often been a previously formed theory. It has not been taken from the Scriptures themselves. Having concluded that the work of this day is equivalent to the geological period which may popularly be designated as the "age of Reptiles," ingenuity is set agoing to make out the *tanninim* serpents, crocodilian types, &c. And in order to strengthen this, the "moving creature" (*sheretz*) must mean a noxious creature! But the terms "moving creature that hath life" of verse 20 includes in it both the "great whales" and the "every living creature that moveth" of verse 21; some of which we know were not only innocuous, but were afterwards permitted, being clean, as food to the people of Israel. It is no doubt true that there are several passages in which it can only mean such creatures as the serpent, the lizard, the snail, &c.; but when it does so we are guided to the meaning by the context. Here the context clearly warrants the interpretation now given. The same mode of remark may be applied to the use of the words "great whales" (*tanninim*). If the use of this term varies, its meaning can only be determined by the context. The following passages will help us to reach a conclusion as to the meaning of the word here, as satisfactory as can be obtained. The reader will notice that the quotations in only three instances point to serpents. The first class of passages manifestly refer to an inhabitant of the sea. "Even the *sea-monsters* draw out the breast, they give suck to their young ones: the daughter of my people

is become cruel, like the ostriches in the wilderness." (Lam. iv. 3.) "Therefore I will not refrain my mouth; I will speak in the anguish of my spirit; I will complain in the bitterness of my soul. Am I a sea, or *a whale*, that thou settest a watch over me?" (Job vii. 12.) "Praise the Lord from the earth, ye *dragons*, and all deeps." (Ps. cxlviii. 7.) In the following verses, however, there can be no doubt as to the meaning; the words point to the serpent properly so called:—"And the Lord spake unto Moses and unto Aaron, saying, When Pharaoh shall speak unto you, saying, Shew a miracle for you: then thou shalt say unto Aaron, Take thy rod, and cast it before Pharaoh, and it shall become *a serpent*. And Moses and Aaron went in unto Pharaoh, and they did so as the Lord had commanded: and Aaron cast down his rod before Pharaoh, and before his servants, and it became a serpent." (Exod. vii. 8–10.) "Thou shalt tread upon the lion and adder; the young lion and the *dragon* shalt thou trample under feet. Because he hath set his love upon me, therefore will I deliver him: I will set him on high, because he hath known my name." (Ps. xci. 13–14.) "Their wine is the poison of *dragons*, and the cruel venom of asps." (Deut. xxxii. 33.) In many other portions of Scripture the term could not consistently be applied, even generally, to any either of the *Cetacea* (whales, dolphins, &c.) or *Ophidia* (vipers, snakes, &c.) They must point to land mammals or birds, with both of which classes they are associated. "But wild beasts of the desert shall be there; and their houses shall be full of doleful creatures; and owls shall dwell there, and satyrs shall dance there. And the wild beasts of the islands shall cry in their desolate houses, and *dragons* in their pleasant palaces; and her time is near to come, and her days shall not be prolonged." (Isa. xiii. 21–22.) "And thorns shall come up in her palaces, nettles and brambles in the fortresses thereof; and it shall be an habitation of *dragons*, and a court for owls. The wild beasts of the desert shall also meet with the wild beasts of the island, and the satyr shall cry to his fellow; the screech owl also shall rest there, and find for herself a place of rest. There shall the great owl make her nest, and lay, and hatch, and gather under her shadow: there shall the vultures also be gathered, every one with her mate." (Isa. xxxiv. 13–15.) "Behold, I will do a new thing: now it shall spring forth; shall ye not know it? I will even make a way in the wilderness, and rivers in the desert. The beast of the field shall honour me, the *dragons* and the owls; because I give waters in the wilderness, and rivers in the desert, to give drink to my people, my chosen." (Isa. xliii. 19, 20.) "Then the eyes of the blind shall be

opened, and the ears of the deaf shall be unstopped: Then shall the lame man leap as an hart, and the tongue of the dumb sing: for in the wilderness shall waters break out, and streams in the desert. And the parched ground shall become a pool, and the thirsty land springs of water: in the habitation of *dragons*, where each lay, shall be grass, with reeds and rushes." (Isa. xxxv. 5–7.) "Shall I not visit them for these things? saith the Lord: shall not my soul be avenged on such a nation as this? For the mountains will I take up a weeping and wailing, and for the habitations of the wilderness a lamentation, because they are burnt up, so that none can pass through them; neither can men hear the voice of the cattle; both the fowl of the heavens and the beast are fled; they are gone. And I will make Jerusalem heaps, and a den of *dragons;* and I will make the cities of Judah desolate, without an inhabitant." (Jer. ix. 11.) "Therefore I will wail and howl; I will go stripped and naked: I will make a wailing like the *dragons*, and mourning as the owls. For her wound is incurable; for it is come unto Judah: he is come unto the gate of my people, even to Jerusalem." (Mic. i. 8, 9.) "I went mourning without the sun; I stood up, and I cried in the congregation. I am a brother to *dragons*, and a companion to owls. My skin is black upon me, and my bones are burnt with heat." (Job xxx. 28–30.) In addition to these various acceptations of the word *tanninim*, there is another class of passages in which it is evidently employed in a figurative sense by the inspired writers of the Bible. As, for example—"Son of man, set thy face against Pharaoh king of Egypt, and prophesy against him, and against all Egypt: Speak, and say, Thus saith the Lord God, Behold, I am against thee, Pharaoh king of Egypt, the *great dragon* that lieth in the midst of his rivers, which hath said, My river is mine own, and I have made it for myself. But I will put hooks in thy jaws, and I will cause the fish of thy rivers to stick unto thy scales; and I will bring thee up out of the midst of thy rivers, and all the fish of thy rivers shall stick unto thy scales. And I will leave thee thrown into the wilderness, thee and all the fish of thy rivers: thou shalt fall upon the open fields; thou shalt not be brought together, nor gathered: I have given thee for meat to the beasts of the field, and to the fowls of the heaven." (Ezek. xxix. 2–5.) "For God is my King of old, working salvation in the midst of the earth. Thou didst divide the sea by thy strength: thou brakest the heads of the *dragons* in the waters. Thou brakest the heads of leviathan in pieces, and gavest him to be meat to the people inhabiting the wilderness. Thou didst cleave the fountain and the flood:

thou driedst up mighty rivers." (Ps. lxxiv. 12–15.) "In that day the Lord, with his sore, and great, and strong sword, shall punish leviathan the piercing serpent, even leviathan that crooked serpent; and he shall slay the *dragon* that is in the sea." (Isa. xxvii. 1.) "Awake, awake, put on strength, O arm of the Lord; awake, as in the ancient days, in the generations of old. Art thou not it that hath cut Rahab, and wounded the *dragon?*" (Isa. li. 9.) "Nebuchadrezzar the king of Babylon hath devoured me, he hath crushed me, he hath made me an empty vessel, he hath swallowed me up like a *dragon*, he hath filled his belly with my delicates, he hath cast me out." (Jer. xli. 34.) Thus the expression is used (1) for "sea-monsters," (2) for serpents, (3) for wild beasts or birds characteristic of desolate places, and (4) it is used figuratively to represent the enemies of the Lord, and especially Pharaoh, as head and representative of the Egyptian power, and Nebuchadrezzar, the head and representative of the Chaldean monarchy. The term is thus a general one, signifying any monstrous creature, whether of the land or of the water, and is to be set down with the one or the other, according as the context indicates. A glance at Genesis i. 21, will show that it is there associated with the water—the ocean. "God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas;" and as corroborative of the view given above in regard to the creation of birds, it is added, "and let fowl multiply on the earth"—fishes and the water are spoken of together, birds are linked up with the firmament and the earth:—

"'And let the fowl be multiplied on the earth.'
Forthwith the sounds and seas, each creek and bay,
With fry innumerable swarm, and shoals
Of fish that with their fins and shining scales,
Glide under the green wave, in sculls that oft
Bank the mid sea: part single, or with mate,
Graze the sea-weed their pasture, and through groves
Of coral stray; or sporting with quick glance,
Show to the sun their waved coats dropt with gold;
Or, in their pearly shells at ease, attend
Moist nutriment; or under rocks their food
In jointed armour watch: on smooth the seal
And bended dolphins play: part huge of bulk,
Wallowing unwieldy, enormous in their gait,
Tempest the ocean; there leviathan,
Hugest of living creatures, on the deep
Stretched like a promontory, sleeps or swims,
And seems a moving land; and at his gills
Draws in, and at his trunk spouts out, a sea."

But why limit the word to any of the *Cetacea* or whale kind? May the amphibious forms of crocodilian life not be represented here? The answer to both questions is, They were created, not on the fifth, but on the sixth day of creation.

"And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so. And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth after his kind: and God saw that it was good. And God said, Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image: in the image of God created he him; male and female created he them. And God blessed them: and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air, and over every thing that moveth upon the earth." (Gen. i. 24–28.) The account of the sixth day's work is rightly divided into two parts by our translators. Verses 24, 25 describe the creation of land animals; verses 26–28 the creation of man, and of the blessing addressed to him by the Creator. My notices of the work of this day will follow this division.

I. *The Creation of Land Animals.*—The work is again prefaced by a general statement—"Let the earth bring forth the living creature after his kind." And a subdivision of the "living creatures" follows—"cattle, creeping thing, and beast of the earth." The last expression may be held to include every form of life not embraced in the other two. Thus we have—

1. Cattle = herbivorous animals useful to man.
2. Beasts of the Earth = all other animals, except
3. Creeping things = reptiles proper, frogs, &c., and all land invertebrates.

Those who are of opinion that the term day in Genesis i. is to be looked upon as meaning a protracted period, and who believe that the narrative of Moses contains a summary of the geological ages, hold that the creatures of the sixth day harmonize with the life which had a place on the earth during the Tertiary periods. Remarks already made on the distinctive and limited character of the work of the fifth day, go to exclude the creation of reptiles from that day, and bring it into the sixth. This is opposed to such a scheme of harmony between the two as is attempted. Moreover, it does not seem to have occurred to such

theorists, that this scheme demands, if it has any weight, that a majority of the forms of life characteristic of the Tertiaries should be in existence still. The animals of the sixth day were contemporaneous with man. But with very few exceptions, and these consisting mainly of the lowest types of life, the generic forms of the Tertiary group of strata have for ever passed away. But everywhere around him man sees plants and animals after their kinds, which were ushered into being only when man was set at their head.

We may now look back on the great works of the creative days, and admire the manifold wisdom and goodness of the Creator. Especially may we adore Him in connection with the preparation of an inhabited world for man. The creatures which surrounded Adam in paradise are continued till the present day. Individuals have not ceased to perish, but species, with few exceptions, remain, and the preservation throughout the great generations which have been on the earth and have passed away, of those types of life which stocked the earth when man was created, bears witness to the sovereign power of him who made them :—

> "Thou hidest thy face, they are troubled;
> Thou takest away their breath, they die,
> And return to their dust.
> Thou sendest forth thy spirit, they are created;
> And thou renewest the face of the earth.
> The glory of the Lord shall endure for ever:
> The Lord shall rejoice in his works."—(Ps. civ. 29–31.)

I have referred above to the remarkable way in which, what may be called the "zoology of the first chapter of Genesis" fits into the most scientific system of classification. The subjoined scheme in a tabulated form will show this. It is given, however, in the full view of the fact that we are not to look for *systems* of science in the scriptures :—

I. INVERTEBRATA.

Fifth Day.	1. Protozoa	= lowest forms of life, sponges, &c.,	Gen. i. 21.
	2. Radiata	= rayed animals, star-fishes, &c.,	Gen. i. 21.
	3. Mollusca	= soft-bodied animals, shell-fish, &c.,	Gen. i. 21.
	4. Articulata	= jointed animals (of the water), crabs, &c.,	Gen. i. 21.
Sixth Day.	4. Articulata	= Do. (of the land) insects, worms, &c.,	Gen. i. 25.

II. VERTEBRATA.

Fifth Day.	1. Pisces	= all fishes,	Gen. i. 21.
Sixth Day.	2. Reptilia	= reptiles,	Gen. i. 25.
Fifth Day.	3. Aves	= birds,	Gen. i. 21.
Fifth Day.	4. Mammalia	= mammals (of the sea),	Gen. i. 21.
Sixth Day.	4. Mammalia	= mammals (of the land),	Gen. i. 25.

It will be seen from this table that, with one exception, all the creatures of the fifth day are inhabitants of the WATER, while those of the sixth day belong to the LAND. The exception on the fifth day is the class BIRDS. Regarding them as flying in the AIR, we can see evidences of order, of plan, in this arrangement. First, the Water is stocked; second, the Air above the water; and then the Land. This, indeed, is the order which, looking at the work of the previous days, might almost have been counted on. Thus the following parallelism has been obtained between the days of creation:—

1. First Day:	Light	= Fourth Day:	The Celestial Orbs.
2. Second Day:	Water and Firmament	= Fifth Day:	Fishes and Birds.
3. Third Day:	Land and Vegetation	= Sixth Day:	Land Animals and Man.

Seventh Day.

The Sabbath of Rest unto the Lord.

Order is thus seen at every point, in a narrative which has been too often held to be in direct antagonism to what, on grounds of pure science, we are entitled to consider evidences of divine method in the works of nature around us.

II. *The Creation of Man.*—Verses 26 and 27 are specially devoted to an account of man's creation. The whole earth had been clad in verdure and luxuriant vegetation. Herb and tree after their kind stood forth in the sunlight to the praise of their Maker. The waters had been stocked with teeming life, and "full of the riches of the Lord" was

> "The great and wide sea,
> Wherein are things creeping innumerable,
> Both small and great beasts."—(Ps. civ. 25.)

As for the earth, Jehovah's ministry of blessing was to it the same before the transaction recorded in verses 26 and 27 occurred, as it was when the sweet psalmist of Israel sung—

> "He sendeth the springs into the valleys,
> Which run among the hills.
> They give drink to every beast of the field;
> The wild asses quench their thirst.
> By them the fowls of heaven have their habitation,
> Which sing among the branches.
> He watereth the hills from his chambers;
> The earth is satisfied with the fruit of thy works.
> He causeth the grass to grow for the cattle."—(Ps. civ.)

But with all this abundance and beauty, and while these works declared unto their Maker his own "eternal power and Godhead," there was no head of earthly life to yield unto the Creator and Father of all the homage of a spiritual service, the expression of a rational nature in sympathy with the mind of God himself. But ere the shades of evening cast again their darkening influence over the earth, this blank was filled up. The grandest step ever taken, in so far as man knows, in the direction of the divine self-manifestation, was realized—"God created man." In virtue of his spiritual nature—eternal, and with a capacity of fellowship even with Him whose throne is set above the riches of the universe—he stands forth invested with a deeper interest than all geological changes, or even than the creation of the forms of life at whose head he was put:—

> "For though the giant ages heave the hill
> And break the shore, and ever more
> Make and break and work their will;
> Tho' worlds on worlds in myriad myriads roll
> Round us, each with different powers,
> And other forms of life than ours—
> What know we greater than the soul?"—(*Tennyson.*)

The opening expression of verse 26 distinguishes the creation of man from all the other creative acts recorded in this chapter. In the latter case it was simply "Let there be;" but in the former it is "Let us make man," implying deliberation at the threshold of the work, and the presence of more than one distinct personality—"let *us* do this, and let it be done in *our* image, and after *our* likeness." This cannot be mistaken. A fair interpretation of Heb. i. and ii. will exclude the angels from all share in the work. To account for the mode of expression by falling back on the grammarian's "plural of dignity," as if the words were used after the manner of kings, is even less satisfactory. But if we bear in mind the words, "In the beginning God (*Elohim*) created the heaven and the earth," and such sentences as, "Behold, man is become as one of us" (Gen. iii. 22), "Let us go down and confound their language" (Gen. xi. 7), "Whom shall I send, and who shall go for us" (Isa. vi. 8), it will be found that a satisfactory interpretation demands the recognition here of the triune God—Father, Son, and Holy Ghost—met with already in the first forth-puttings of fashioning and creative power. The divine counsel passed into action, and the result is thus stated:—"So God created man in his own image, in the image of God created he him; male and female created he them." The

divine image lay in spiritual and moral resemblances—in intellect which might triumph over the objects of mere sense, with which, even in their highest efforts, the previously created animals could alone be conversant, and which, as the eye of the soul, might gaze on God as a father and friend, and have true fellowship with him; in affection which dwelling on the Creator would find in the object of fellowship a great example of "righteousness and the holiness of truth."

The points at which these statements regarding the creation of man impinge upon the alleged findings of science are many and most instructive. We may glance at a few of them here:—

I. The Scripture account of the creation of man represents him as the last created of the present races of animals. The sketches given above of the fossiliferous strata, with between thirty and forty thousand species of animals distinct from living forms, tell, at every point in the ascending scale, that man was not. It is only when we meet with the remains of existing species that traces of man appear. Science thus bears direct testimony to the same facts as the first chapter of Genesis.

II. The Edenic pair were the first of the race—the parents of all who have ever been on the earth. "God made of one blood all nations of men for to dwell on the face of the earth." The most recent researches of unbiassed and trustworthy anatomists, proclaim this great truth as distinctly as the Scriptures do.

III. A great miracle is implied in the introduction of man to the scene of being. Think on his twofold nature—body and soul—and, having weighed the peculiarities of each, search the great fossil-bearing formations, and ask, Is there aught in all those successive worlds of life that bear any resemblance to man? Is there any one species of the thirty or forty thousand which will warrant a candid mind to affirm, Here I find an individual so like man that of it I may predicate mind, thought—a moral constitution, in short? Before such a position could be assumed, imagination must be substituted for sober scientific research, and the spirit of philosophic inquiry must be superseded by the fool's heart, where the wish is ever father to the thought, and the thought is, "There is no God." The appearance of man among the animals of the sixth day bears witness to a great miracle in creation. And here let me urge a consideration which should have an important bearing even on the miracles of the New Testament. Science and Scripture testify to the miraculous creation of man on the sixth day. Should it, then, seem a strange thing, or something which timid apologists should seek an excuse for, in the ignorance of the Jewish mind and the like when

our Lord appeared, that the mission of that Redeemer by whom man was at first made, should be characterized by a remarkable fulness of miraculous manifestation? In the primeval creation of man we meet with the forthputting of almighty power in order to a miraculous result. Why, then, should it seem anything but most likely, when the work of recreating in the image of God was fully inaugurated in the coming of Christ, that his work should be marked again by the same power? The truth is, that the use which infidelity has made of the phenomena accompanying the action of natural laws has driven many Christians into a position of apology, instead of one of uncompromising defence on the merits. The success of the attack has not been the result of any joints in the harness—openings in the coat of mail—but of the ignorance and faint-heartedness of those wearing it. The weapons were at hand, but they knew not where to find them; the armour was complete, but not having seen the mode in which it was fashioned, they distrusted it in the hour of need.

God pronounced his blessing on the newly created man. "God blessed them, and God said unto them, Be fruitful, and multiply and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." Thus in his position, as blessed of God, man forms the connecting link between matter and spirit. By the origin of his body—"God formed man of the dust of the ground"—he is associated with all the other forms of animal life; and by his soul—"God created man in his own image," "God breathed into man's nostrils the breath of life"—he is connected with the Creator himself and the whole spiritual world. No wonder that even a thoughtful heathen, meditating on this apparent twofold relationship, should rise to something like a true appreciation of man's nature, and of the place which the Creator designed him to occupy on the earth:—

> "A creature of a more exalted kind
> Was wanting yet, and then was man designed:
> Conscious of thought, of more capacious breast,
> For empire formed, and fit to rule the rest. . . . .
> Thus, while the whole creation downward bend
> Their sight, and to their earthly mother tend,
> Man looks aloft; and, with erected eyes,
> Beholds his own hereditary skies."—(*Ovid.*)

Many difficulties have been raised touching the interpretation of verses 29 and 30. To meet these not only have fanciful constructions

been proposed in abundance, but liberties have been taken with the Hebrew text, which, if allowable, would put an end to any reliance on even plain forms of speech. The difficulties have sprung out of the desire to know more of the divine arrangements than God has made known. It is asked, But was the use of flesh not prohibited to man in innocence? Were there no animals which lived on each other then as now? Had all to be satisfied with the green herb for meat? These questions find a ready answer in a well-defined understanding of the verses themselves. The relation of man to the lower animals is fixed in verse 28. They were put under him, not in the sense of mere subjection only, but in that of servants; they were for him, at his disposal. He may have used them as food or he may not. We seek to be wise above what is written, when we attempt to settle this question one way or another. It is certain that Gen. ix. 3 does not absolutely inform us that, up till the time of the flood, man had lived on vegetables. Indeed it is not a fair use to make of that verse, to seek light from it on any question that might be raised here. The words simply cover the permission of two kinds of food to the post-diluvians. "Every moving thing that liveth shall be meat for you; even as the green herb have I given unto you all things." If it be held that they have any retrospective bearing, it would certainly, according to all fair principles of interpretation, not tell in the direction in favour of which it is generally quoted.

Having, then, defined the relation between man and the lower animals, the Creator next settles, on the one hand, the use of the seed-bearing herb and the fruit-yielding tree to man—"to you it shall be for meat;" and on the other hand, the use of the "every green herb" to the lower animals—to them "I have given every green herb for meat:" in a word, that, directly or indirectly, the vegetable world supplies the staple of the food of man and the lower animals. The question "Did the lower animals prey upon one another at this early period?" will be answered when we come to consider the introduction of death to man as the "wages of sin."

And now when the great Creator looked back on the six days' work, and when he beheld the wondrous beauty, and rich luxuriance, and teeming life in earth and ocean, and the unbroken happiness of all, we are told, "And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day." "Thus," adds the inspired historian, "the heavens and the earth were finished, and all the host of them. And on the seventh day God ended

his work which he had made; and he rested on the seventh day from all his work which he had made. And God blessed the seventh day, and sanctified it (set it apart for holy uses): because that in it he had rested from all his work which God created and made."

Throughout the foregoing exposition and discussions I have regarded the first chapter of Genesis as a plain but divinely inspired historical narrative. Dealing as it does with matters which could never come under the notice of its writer, it was necessary that he should be told it by the Creator himself. But this has no bearing one way or another on its character as a true history. Accept the Creator as the witness to his own works, and you may apply all the acknowledged principles of historical criticism to the Mosaic narrative. Our Lord and his apostles looked on this chapter from this point of view, and referred to its utterances as plain historical statements. The following verses, arranged in parallel columns, illustrate this remark:—

GENESIS I.	NEW TESTAMENT.
In the beginning God created the heaven and the earth.—Ver. 1.	Thou, Lord, in the beginning hast laid the foundation of the earth, and the heavens are the works of thy hands.—Heb. i. 10.
And God said, Let there be light: and there was light.—Ver. 3.	For God, who commanded the light to shine out of darkness, hath shined in our hearts.—2 Cor. iv. 6.
And God said, Let the waters under the heaven be gathered together into one place, and let the dry land appear.—Ver. 9.	By the word of God the heavens were of old, and the earth standing out of the water and in the water.—2 Peter iii. 5.
Let the earth bring forth grass, and herb yielding seed.—Ver. 11.	The earth which drinketh in the rain that cometh oft upon it, and bringeth forth herbs.—Heb. vi. 7.
Let us make man in our image, after our likeness: and let him have dominion, &c.—Ver. 26.	Thou crownedst him with glory and honour, and didst set him over the works of thy hands.—Heb. ii. 7.
So God created man in his own image, in the image of God created he him: male and female created he them.—Ver. 27.	He is the image and glory of God.—1 Cor. xi. 7.
	Made after the similitude of God.—James iii. 9.
	Have ye not read that he which made them at the beginning made them male and female?—Matt. xix. 4.

The second chapter of Genesis is connected by so many links with the first, that some reference to these is called for before we deal specially with such references in the second as fall within the scope of this work. Much time and labour, much learning and ingenuity, have

been spent, especially in Germany, to make out direct contradictions between the account of the creation in chapter first and the references to it in chapter second. The fruits of a criticism whose darkness has been too often mistaken for depth, have passed under many forms into this country. And while the shallowness of the sources whence they have come have been forgotten, the streams have assumed an apparent magnitude which in reality does not belong to them, by being mixed up with phases of British thought in theology and science. We are told that while chapter first associates the creation of vegetation with the direct creative act of the Almighty, chapter second goes no farther than the recognition of the action of natural law, seen in the mist (v. 6) which watered the ground! In the one it is held we have an earth saturated with moisture, emerging from the womb of ocean; in the other, it was so dry that it required this mist to moisten it! In chapter first man is created male and female; in chapter second the male is formed first, and the female is taken from a part of the male. In all this, it is alleged, there is contradiction! In the former, man is created in the image of God; in the latter, he is made from the ignoble dust! In the one, man is represented as having been made after the beasts; and in the other it is averred that he was made before them; while Eden in the second chapter has a place assigned to it in time anterior to the work of the fifth day! Were ever plain words so wrested from their natural meaning? Was ever historical narrative so tortured that it might declare itself in harmony with the prejudices of its critics? Why all this? The only probable explanation is, that as these early chapters of Genesis contain so many things which bear testimony to the true character of God, fully revealed in the after Scriptures, it is felt that if they can be damaged as historical documents, speedy work might be made with the testimonies which follow to the character of God as "infinite, eternal, and unchangeable, in his being, wisdom, power, holiness, justice, goodness, and truth," and to the character of man as fallen, lost naturally to God and all good, guilty in the sight of the Holy One, and deserving "God's wrath and curse." Thus it has ever been. The guilty turn their backs on forgiveness. The diseased refuse the sovereign remedy. But the answer to all this lies in the narrative itself. New elements are introduced in the second chapter, of a higher and more important kind than we meet with in the first. For example, we have the rest of the seventh day, the prototype of the holy Sabbath—the opportunity, in short, for man entering into sympathy with the thoughts of God touching the order, and beauty, and native goodness

of the six days' work. Then in chapter second, verses 16, 17, relations between man and his Maker are plainly implied of a kind as suggestive of the highest condition of spiritual development, to which man in contact with the thoughts of God can obtain, as they were of a wholly new tie between the creature and Creator. Nothing of the kind obtained before. The allusions to creation in chapter second are such as would best give prominence to this relation—the relation of covenant between God and man; moral obligation and responsibility on man's part, the continuance of spiritual blessing and the fulfilment of sovereign voluntary promise on God's part. These references to creation form, as it were, a background for a picture of man acknowledging the privileges of this covenant standing.

GENESIS II.

"AND the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food; the tree of life also in the midst of the garden, and the tree of knowledge of good and evil" (ver. 8, 9).

Eden is to be regarded as the general name for a tract of country, in the east of which the garden stood which received our first parents. In the opening verses we have a description of the garden, and then of the land of Eden. The trees of the garden were of three kinds:—(1) Such as were pleasant to the sight; (2) good for food; and (3) symbolic, as set apart for the development and discipline of man's higher spiritual nature. The classification of the trees here brings with it a deeper insight into the character of God than we have yet seen, if we except what is implied in the rest of the seventh day. Thus we have—

1. The tree pleasant to the sight.
2. The tree good for food.
3. The tree of life.
4. The tree of knowledge of good and evil.

The twofold nature of man was taken into account in the arrangement. For the body there were the means of gratification and of strength, and for the soul the means of growth and of power. That these latter were provided for through a prohibition, on the one hand, and information, on the other hand, touching a moral state of which man had no experience, would influence the Will and the Emotions. Apart from these considerations, however, and of fuller interest to us in connection with the goodness of God, is the fact that the beautiful here takes precedence of the useful—"Out of the ground made the Lord God to grow every tree that is pleasant to the eye." He had endowed man with an intellect fitted for the appreciation of beauty, and he provided the means for his gratification. But this is not all. Why have made this taste for the lovely in the outward world innate—native to the unfallen man? It could scarcely be only to please, though this in itself were good, but he saw how the pleasure would react on the whole moral and intellectual

being. The tree pleasant to the sight still continues with us. God has spread riches of beauty with a lavish hand all around us in his green earth, in tree, and shrub, and tiniest flower even that is trodden under foot by the wayside, or that courts man's admiration in every hedge-row. Their beauty bears on it the simple legend—"Gift of God." The man that accepts that gift will have in reality a far higher pleasure than the devices of art can minister. It is this gift, implied in the tree pleasant to the eye, that makes the efforts of the artist in copying nature so intensely interesting to such as have thought on these things. The effort at imitation—the desire to copy the beauty of nature and to fix it on the canvas or in the stainless marble—bears witness to the existence of an original taste, as well as of objects in nature still fitted, as in Eden, to gratify that taste. Whether in nature or in art, then, we need put no stint on our enjoyment of what God has provided for us "pleasant to the sight."

It were vain to attempt to decide either the nature of the tree of life or of that of knowledge, on any other ground than the information given us of them in the Scriptures. That they were true trees is beyond a doubt. They are classed in plain words with those that were pleasant to the sight and good for food. But by the sovereign arrangement of God they were set apart to a special use—that use being indissolubly connected with the command of God. They were the signs and pledge of the covenant engagement between God and man. This is nearly all we know about them, and it is sufficient to explain how the eating of their fruits could come to be associated with such important spiritual issues. What references are made to the tree of life in other parts of the sacred volume? "And the Lord God said, Behold, the man is become as one of us, to know good and evil: and now, lest he put forth his hand, and take also of the tree of life, and eat, and live forever: Therefore the Lord God sent him forth from the garden of Eden, to till the ground from whence he was taken. So he drove out the man; and he placed at the east end of the garden of Eden cherubims, and a flaming sword which turned every way, to keep the way of the tree of life." (Gen. iii. 22–24.) These words, looked at in the light of Gen. ii. 9, point to a power in this tree, *while man remained in Eden*, to counteract the curse of death which had now fallen upon him. Thus he was driven out. It is not given to man to penetrate the mystery farther; but the purely symbolic aspect of this tree has more light shed on it. "To him that overcometh will I give to eat of the tree of life, which is in the midst of the paradise of God." "In the midst of the street of it

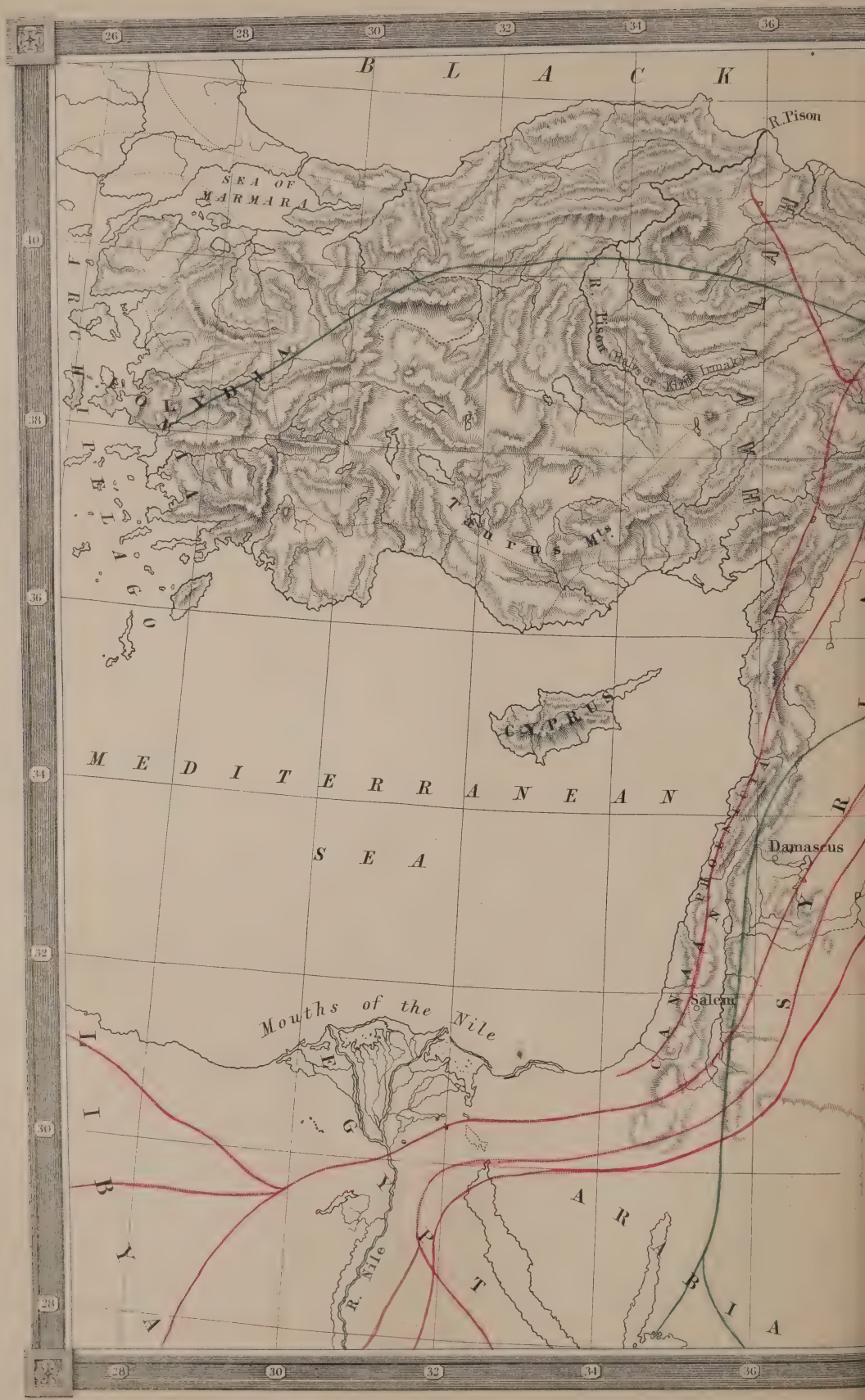
(the Holy Jerusalem), and on either side of the river, was there the tree of life, which bare twelve manner of fruits." "Blessed are they that do his commandments, that they may have right to the tree of life." (Rev. ii. 7, xxii. 2, 14.) Man forfeited eternal life by sin. That life is restored in Christ, who is described, in the visions of John, as *the* life in the New Jerusalem—the one and only central source of all blessing. The right to eternity was lost by disobedience, but once more the law of love and eternal life were to meet. Obedience was to be rendered by another that his people might obey in Him—"they do his commandments, and have a right to the tree of life." Now it is that all those passages in which the tree of life is associated with spiritual men, and even with moral duties, are seen to have a very blessed meaning. They tell of lost ground recovered—of the restoration of fallen ones. These hearken to the voice of heavenly wisdom, and she becomes "a tree of life to them that lay hold upon her," and happiness to "every one that retaineth her" (Prov. iii. 18). The result is the influence for good on the whole nature—heart and life. "The fruit of the righteous is a tree of life" (xi. 30). We can thus find traces of Eden lying all around us.

But even more mysterious was the other tree—"the tree of knowledge of good and evil." Man knew true good, yea all good, in knowing his Maker and in loving him. Evil was in the world. Was he to know it also, and, in the knowledge of it, to become truly unworthy of the love of Him who is supremely good? It must ever be a theme of deepest interest for the thoughtful, that the moral corruption of the race —the taint which has influenced all mere humanity—began with an increase of knowledge, because it will suggest to them the yet more deeply interesting theme, that redemption comes to the fallen by an increase of knowledge in an opposite direction—the knowledge of Christ, whom to know is life eternal. Thus the whole question of the fall and of salvation through a substitute, comes up in our first notice of this tree of knowledge. The form in which the allurement to eat came bears testimony to the subtilty of the tempter:—Ye have a Lord over you; but why, when the means are within your reach, should not ye be as gods yourselves? Eat: there is no reason why you should abstain, but the contrary. "Your eyes shall be opened, and ye shall be as gods, knowing good and evil." "She took of the fruit, and did eat, and gave also unto her husband with her; and he did eat." (Gen. iii. 5, 6.) True, they learned evil—they attained to the knowledge of it, but in doing so they lost the good. Have we, then, in this transaction

in connection with one of the trees of Eden the explanation of the origin of evil? Far from it. The transaction does no more than bear witness to the fact, that evil was already in the world before Eden had any existence. All that we learn here is, that man, created in the image of his Maker, in knowledge, righteousness, and holiness, fell under its power. Sin became a reality in man's spiritual nature. It entered into the experience of the whole human race. There is none that sins not. But the question of its origin lies as far out of view as ever.

We now notice the Land of Eden, and "the garden planted eastward in it" (ver. 8). Have we any reliable information as to their true geographical position? "A river went out of Eden to water the garden; and from thence it was parted into four heads" (ver. 10). Great attention, as was to be expected, has been bestowed upon this subject. Foreign travel, ingenuity, learning of the most varied and extensive kind have all been turned to it. And when historical criticism has been forced to acknowledge itself at fault, many have given full scope to their imagination in their attempts to fix the position of the garden of Eden. A glance at the multitude of conflicting theories could not fail to teach us how much intellectual power has been spent in vain, how much learning has been wasted, and how much precious time has been squandered in efforts to make good first impressions on this point, and in the hope to enlist the sympathies of biblical scholars on its side. Instead of describing minutely their theories, or attempting to characterize their weak points, it will serve a better purpose simply to mention them in connection with the names of their authors.

Calvin identifies Havilah with a northern portion of Persia; Cush is found by him in Arabia, and the Gihon, he holds, is represented by the western arm of the Euphrates. Grotius finds Cush in the modern Chusistan, and Hottinger holds it equivalent to Susiana. The latter believes the site of Eden to have been at Korna, near the confluence of the Euphrates and Tigris. Bochart identifies the river Pison with the western arm of the Shat el Arab, and the Gihon with its eastern branch. Hopkinson is convinced that Eden was near Babylon, that the Nahr Malca is the Pison, the Maarsares the Gihon, Susiana equal to Havilah, and Arabia to Cush. Redslob finds Eden in Central Asia, the Pison he is persuaded is the Indus and Gihon the Upper Nile; while Calmet is as sure that Pison is the Phasis, Gihon the Araxes, Havilah Colchis, and Cush a territory lying to the south-west of the Caspian sea.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B L A C K
R. Pison
SEA OF MARMARA
R. Pison Baluk or Kara Irmak
MYSIA
PHRYGIA
LYDIA
CARIA
LYCIA
PISIDIA
PAMPHYLIA
CILICIA
Tsaurus Mts.
CYPRUS
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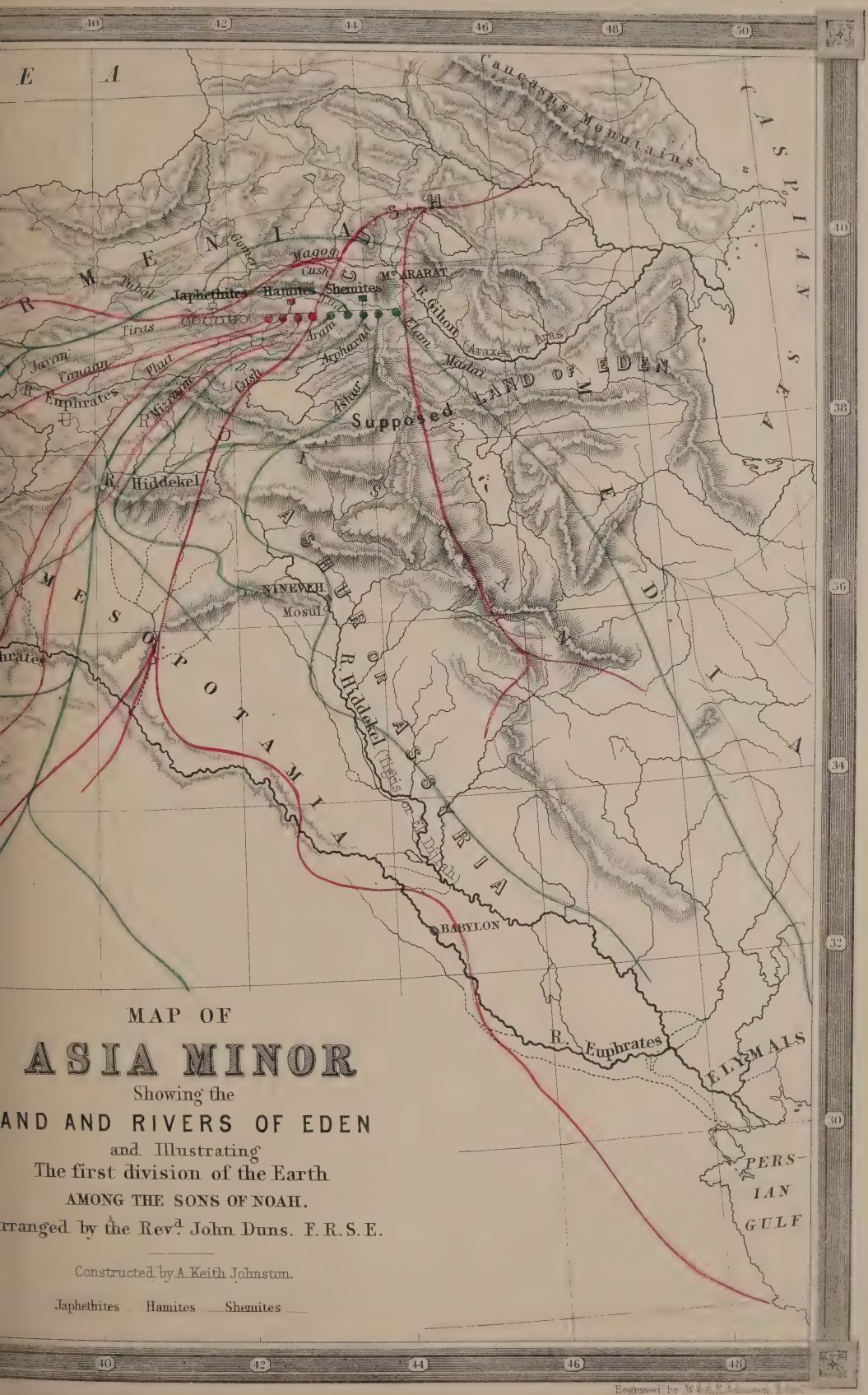
Caucasus Mountains
CASPIAN SEA
ARMENIA
Gomer
Magog
Cush
Mt ARARAT
Tubal
Japhethites
Hamites
Shemites
R. Gihon (Araxes or Aras)
Tiras
Javan
Canaan
Phut
Aram
Arphaxad
Elam
Media
R. Euphrates
R. Mizraim
Cush
Asshur
Supposed LAND OF EDEN
R. Hiddekel
ASSYRIA
NINEVEH
Mosul
MESOPOTAMIA
R. Hiddekel (Tigris or Dijleh)
BABYLON
R. Euphrates
ELYMAIS
PERSIAN GULF
MAP OF
ASIA MINOR
Showing the
AND AND RIVERS OF EDEN
and Illustrating
The first division of the Earth
AMONG THE SONS OF NOAH.
rranged by the Revd John Duns. F.R.S.E.
Constructed by A. Keith Johnston.
Japhethites Hamites Shemites
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Michaelis, again, holds that the Araxes represents the Pison, the Oxus the Gihon, a district to the west of the Caspian the land of Havilah, and Cath on the Oxus the land of Cush, while Armenia is held by him to be the true land of Eden. Several of these guesses may seem wide enough of the mark; but what shall we say to those that follow? Eden, says Schultness, lies beyond the ocean which surrounds the earth, the stream issuing out of it is that ocean, and Pison is the Indus. The love of country comes in to warp the judgment of the commentator, and its influence is as much seen in this question as it was in the case of the Spaniard who exclaimed, after reading that part of the temptation of our Lord, in which Satan is represented showing him all the kingdoms of the world, "He must not have shown him Spain." Raumer holds that an island formed by the Irtish, Dwina, and Volga was the land of Eden. Harduin is sure that it was in Galilee, that the stream issuing from it was the Jordan, and that Pison is represented by a river in Arabia (Flumen Achanum). Hasse believes that Eden was on the coast of Prussia, and Hartmann is as sure it was in the valley of Cashmere. When Josephus comes to speak of these geographical questions, he has as little difficulty as the moderns in regard to them. The stream out of Eden is, in his estimate, a river which runs round the earth, the Pison is to be found in the Ganges, the Gihon in the Nile, while India is the true Havilah, and the land of Egypt, without any doubt, is Cush. It is no doubt true in regard to these speculations, that there are certain facts in geography which tell directly against them. But in such questions, facts are seldom rigidly inquired into. Men are, for the most part, ready to put theories first. Had they, however, but looked into an Atlas of geography, they would have saved themselves much labour, and their readers more time. After a careful study and comparison of the various theories regarding the site of Eden, I am led to prefer that of Colonel Chesney ("Euphrates Expedition," vol. i., p. 266). After stating the difficulties in the way of a satisfactory conclusion, Colonel Chesney says—"Under such discouraging circumstances, any attempt to elucidate the geography of Eden, might have been deemed hopeless, if it were not that many indications afforded by the character and natural productions of the country presented themselves to me during the progress of my rather extensive researches in that part of the world. From these, and from the fact that the sources of the Euphrates and Tigris, and of two other great rivers, exist within a very circumscribed space in Armenia, I have been led to infer that the rivers known by the comparatively

modern names of Halys and Araxes, are those which in the book of Genesis have the names of Pison and Gihon; and that the country within the former is the land of Havilah, while that which borders upon the latter is the still more remarkable territory of Cush." Fondly cherished traditions of Eden, still to be met with in the valleys of Central Armenia, point to the peculiarly fertile tract of country which embraces the northern division of the present páshálik of Mosul, and extends to the north of Erz-Rum; its western extremity being near Tókát, in the direction of the Halys, and its eastern boundary being in part in the district beyond lake Van. Within its limits are the mountain ranges of Ararat and Nimrúd. Local traditions are strengthened by the geography of the country. Within a circle, with a radius of ninety miles, four great rivers have their sources. These flow into different seas, and two of them are associated in the Bible with the land of Eden. "Whatever doubts may be entertained about the first and second streams mentioned in the book of Genesis, there can be little regarding the third, which flows at present, and did in the time of Moses, towards the east of Ashur or Assyria, bearing, in the Chaldean language, the name of Hiddekel, Dekel, Dijel, or Diglath, and Tigris, from its well known swiftness"—Tigris in the Median tongue signifying *arrow*. "Still less can there be any uncertainty about the fourth, which was evidently too well known to require more than the brief but expressive sentence—'And the fourth river is Euphrates.'" With what rivers then can the Pison and Gihon be identified? The valleys in which the Halys, Araxes, Tigris, and Euphrates have their sources, strike out from the highest mountain range known before the flood. They are, moreover, luxuriantly beautiful, fertile in the highest degree even still, and regarded as one great region. "The variety of its surface, climate, and temperature, is adapted for the growth of almost every tree that is pleasant to the sight and good for food." The tracts bordering on the sources of the Euphrates, on the slopes of Ararat, are, to the present time, noted for their beauty and fertility. There are the Jághi Tágh, or "Mountain of flowers;" the plain of Erz-Rum rich in grain; the well-watered plains of Terján and Erzingán, with their fields yielding abundant crops, and their gardens the favoured sites for the grape and the melon; and other plains yielding cotton, and wine, and vegetable oils in abundance. In all of them, the horse, the mule, the ox, and the sheep are reared in great numbers. In the country to the west of the Euphrates, as far as the Halys, are the peculiarly rich plains and fertile valleys of Lesser Armenia. The

tract lying to the east of the Euphrates, embraces numerous productive valleys and slopes. The shores of Lake Ván "are covered with poplar, tamarisk, myrtles, and oleanders, whilst numerous verdant islands scattered over its placid lawn offer a prospect altogether enchanting." "Between the Euphrates and Lake Ván lie the verdant plains of the Tigris; these, except where open spaces are left for the growth of maize, melons, gourds, and cucumbers, are covered with groves of plum, apricot, and peach trees, rising above dense clusters of the fig and pomegranate, which are themselves half hid beneath clustering vines." "The territory of Urumiyah forms the south-eastern portion of the supposed limits of paradise." Like the others, its fertility is as remarkable as its beauty. So, too, is it with the tract bordering on the Araxes, "which for striking mountain scenery, interspersed with rich valleys, can scarcely be equalled; this district accords, therefore, in every respect with the best notions we can form of the cradle of the human race. Here, say the Armenians, was the vale of Eden. On the summit of Mount Ararat, at no great distance from hence, the Ark rested; and, here also, the vine was first cultivated by Noah. Here are forests of oak, ash, walnut, and the finest fruit trees; whilst rice, barley, wheat, hemp, and flax, are reared in the neighbouring plains almost without culture."

The Halys, now named the Kizil-Irmák, is supposed to be the Pison of Moses.

Rising not far from the sources of the Euphrates, the Aras flows through Armenia into the Caspian sea. Is this the Gihon of Scripture? Several things make it likely. "The name of the second river is Gihon: the same is it that compasseth the whole land of Ethiopia," or Cush. An Armenian historian (without any reference to the present subject) says, that south-west of Erivan, Araxmais, son of Armenac, built a city of hewn stones in the plain of Aragaz, near the left bank of the river called Gihon, whose name was then changed to Arast, or Araxes, after his son. The tract lying between the Euphrates and Halys, or Kizil-Irmák, is rich in metals. The Cush of Scripture is represented by the region which extends along the banks of the Aras, or Gihon, as far as the shores of the Caspian. Havilah included the whole of the ancient Colchis, and a large tract of country besides. It may be presumed to be represented by the modern pashaliks of Sivás and Tarábuzún. In ancient times it was noted for its gold, as may be learned from many references in the literature of Greece, and especially from the well-known story of the "golden fleece," to

recover which the celebrated Argonautic expedition was undertaken, led, in the words of Dante, by Jason—

> "He whose skill and prowess won
> The Ram from Colchis."

Silver, copper, and precious stones were also abundant in the same region. The words of Moses are—"And the gold of that land is good: there is bdellium and the onyx-stone" (ver. 12). "Few words," says Chesney, "have given rise to more discussion than 'bdellium.' Some writers considered it to signify the gum which is described under that name by Pliny; while others, apparently with greater reason, have referred it to some more precious substance. The learned Reland, for example, thought that schoham, or emerald, was the bdellium of Moses; also Eugubinus and Jerome were of the same opinion. But Beroaldus, Kimchi, and Benjamin of Tudela, with more probability, have fixed upon the pearl; and it is remarkable that in the same sentence the last designates this precious stone by the words bdellium and lulú. This opinion has since received the powerful support of Bochart, and is strengthened by finding the pearl fishery expressly mentioned in the "Periplus" as existing on the coast of Colchis; which, says Diodorus Siculus, abounds in gold, smaragds, and crystals. It may be added that the gum supposed to be here indicated, as well as turquoise, beryls, and the onyx, is found there in still greater quantity. Therefore, whether the Hebrew word really meant a gum, a stone, or a pearl, the locality in question is equally proper, since they are all to be found there."

In the inspired description of the Gihon it is said—"The same is it that compasseth the whole land of Ethiopia" (ver. 13).—literally, "the whole land of Cush." It seems scarcely to admit of a doubt that the territory "compassed" on the north by the Aras or Araxes was the original country of the Cushites. "The word remains almost unchanged in Kush, Shus, Sus, and Kushasdan, the Land of the Sun, and the Land of the Magi." "This territory was the abode of the posterity of Nimrud, up to the time of Josephus, who says of the sons of Ham, 'Time has not at all affected the name of Chus; for the Ethiopians over whom he reigned are to this day, both by themselves and by all the men of Asia, called Chusites.' The word Ethiopian is derived from *aitho*, I burn, and *ops*, a face: a person with a burnt, black, or very dark face, such as are the Kurds and other mountaineers of these parts, though they live in a temperate climate." From such considerations as the above, and from the almost unanimous testimony of the

oldest historians, Colonel Chesney concludes "that the geography of Asiatic Cush may be said to be determined with a reasonable degree of certainty." Though it appears to me that the proofs corroborative of this theory regarding the site of Eden, are much stronger than those adduced in support of any of the others to which we have referred, yet it would be unfair not to acknowledge that there is one strong objection to it in the language used by Moses. At verse 10 we are told that "a river went out of Eden to water the garden; and from thence it was parted, and became into four heads." To obviate this difficulty, it has been alleged that the word rendered river has also a plural signification, even when used, as here, in the singular. But though many Hebrew words are of this nature, I am not aware of any passage in the writings of Moses in which it is thus used. Where it occurs in the plural, one or another of its three forms of the plural is used. The only way of removing the difficulty, while a meaning is still retained in harmony with the genius of the original language, would be to regard the expression as equivalent to a mass of waters, not in the sense of a sea or of a lake, but the result of the dew of verse 6. There the whole face of the ground is represented as being watered. The moisture would then assume the form of one stream and another, and the whole would be regarded as giving rise to the four heads spoken of in verse 10. Does this view appear far-fetched? There are, however, peculiarities in the verse itself which warrant such a construction. For example, the river is said to go "out of Eden to water the garden," and yet we know that the garden was in it. Here, then, the words must mean that the water was collected from the territory of which the garden formed a part. Thus, too, singular terms are frequently used to indicate more than one. "And the Lord set a mark upon Cain, lest any finding him should kill him. And Cain went out from the presence of the Lord, and dwelt in the land of Nod, on the east of Eden" (Genesis iv. 15, 16); but in the next verse we find that his wife was with him. Again, in Genesis x. 11, when information is given of the migration of a tribe or family under the leadership of the founder of one of the greatest cities of those early times, the narrative runs in simple grandeur thus:— "Out of that land went forth Asshur and builded Nineveh, and the city Rehoboth and Calah." It would thus appear that there is no overstraining of this passage in putting such a construction on it as would strengthen the conclusion to which Colonel Chesney has come, as I think, on good grounds, regarding the supposed site of the blessed garden. But perhaps the old poet, whose simple lays

the Bible readers of 1580 loved to ponder, is still worthy of being listened to:—

> "Yet (over-curious) question not the site
> Where God did plant this garden of delighte;
> Whether beneath the equinoctiall line,
> Or on a mountain near *Latona's* shrine,
> Nigh *Babylon*, or in the radiant east.
> Humble, content thee that thou know'st (at least)
> That that rare, plentious, pleasant, happy thing
> Whereof th' Almighty made our grandsire king,
> Was a choice soil, through which did rowling slide
> Swift Ghion, Pishon, and rich Tygris tyde,
> And that fair stream whose silver waves doe kiss
> The Monarch Tours of proud Semiramis."

Besides the trees and the rivers of Eden, Moses makes special mention of gold, bdellium, and the onyx-stone. These have all been noticed in stating the probability that the region in the neighbourhood of Ararat represents the original dwelling-place of man. They, however, claim special notice:—

1. Gold.—The reference here is plainly to a metal which was found in a natural state in the Land of Eden; and the words "the gold of that land (Havilah) is good," seem to imply that it occurred in the pure lump—the nugget—and did not require to be washed from the sand, or crushed with the rock in order to its being used. In theories touching the site of Eden this fact has been too little considered. Indeed I am not aware of its having been referred to at all, though it is fatal to the claims put in for many localities. Geologists know that this precious metal is almost entirely found associated with some of the older stratified rocks, and as these constitute the subsoil of but a comparatively small part of the world, gold is not to be looked for over very wide areas. It occurs in lodes or veins, in laminæ or thin scales, among the detritus of the old rocks, and mixed with quartz rock in such a way that, mineralogically, it is to be looked upon as having been laid down at the same time with the quartz. Nugget gold has generally the appearance of having been melted. Gold in recent workings is often described "as resembling drops of melted metal poured into sand, the

Fig. 54.

Gold nugget.

indentations being visible even upon the smallest particles of the gold when microscopically examined." These indentations may be observed in most specimens. Fig. 55 shows them on a fragment of recent gold, magnified seven hundred times.

We are warranted in concluding that wherever the site of Eden may have been, it was in a region where the gold-bearing old rocks occur. "Seeing," says Sir R. Murchison, "on the one hand, that the oldest rocks, and, on the other, the medial and youngest deposits, never contain gold, and that yet the metal is of recent accumulation *en masse*, it might seem to follow that there existed in those original deposits, which have since become largely auriferous, the elements out of which gold was subsequently brought together in rich veinstones. It is indeed a fact that there are fine-grained old schistose sediments in which gold is so impalpably disseminated, that it is difficult to imagine how this diffusion could have occurred if the original menstruum had not contained the elements of the ore. In that diffused state the gold may have remained long after the consolidation of the sediment, until, in ages long posterior, it was run together into metallic veinstones by metamorphic action, or segregated into the lumps and filaments in which it now occurs. But however we may account for them, the facts are those which I have for many years exposed—viz., that a certain geological zone only in the crust of the globe has been rendered richly auriferous." References to the preparation of gold for industrial purposes, and to the uses made of it, will be considered as they occur in the sacred narratives.

Fig. 55.

Fragment of Gold.

2. Bdellium.—Two views have been taken of this. One party has held that it could only be a gum which issues from certain trees common in the east, while another party pleads that the pearl is here referred to. I prefer the latter view, were it for nothing more than its congruity with the words of Scripture which describe the region of Eden. Its vegetable productions had been referred to, its physical features described in connection with the rivers, its fauna comes in for a share of attention; and what so likely as that its most precious minerals should be noticed—its gold, its onyx-stone, and its pearls? This has been acknowledged in the attempts to fix the site of Eden near the Persian Gulf, noted in all historical times for its pearls. Colonel Chesney has, however, shown that the region to which we have referred as the pro-

bable site supplies the pearl from its waters, as well as the gold and onyx from its rocks. The supposition that a certain gum is represented by the word bdellium (*bĕdolach*) is not admissible. It has been formed on the ground of the resemblance between the Hebrew word and that used by the ancients for a gum, obtained from trees of the natural order *Amyridaceæ*, most of which are distinguished by the quantity of balsam, or resinous matter, which they yield, as myrrh, frankincense, balm or balsam of Gilead—the bdellium of the Romans, Greeks, and Egyptians. Each of these will be noticed in its place. It need only be observed here that the bdellium mentioned by Pliny and others is not so scarce and excellent as to make it precious, while that mentioned in Genesis is evidently both. But the word employed here is used in another passage of Scripture, in a way that cannot fail to help us to a conclusion as certain as is possible in the circumstances. The fair inference to be drawn from the use of the word has been overlooked. "And the manna was as coriander seed, and the colour thereof as the colour of bdellium" (*bĕdolach*). By referring to Exodus xvi. 14, 31, we find the description enlarged—"And when the dew that lay was gone up, behold, upon the face of the wilderness there lay a small round thing, as small as the hoar frost upon the ground." "And the house of Israel called the name thereof manna: and it was like coriander seed, white." It is clear from this that the bdellium of Eden was white. The whole passage, indeed, seems to point to the pearl as the standard of comparison.

3. Onyx Stone.—The Hebrew word (*shoham*) here rendered onyx, occurs in the following passages of Scripture:—Exod. xxv. 7, "*Onyx stones*, and stones to be set in the ephod, and in the breastplate;" xxviii. 9, 20, "And thou shalt take two *onyx stones* and grave on them the names of the children of Israel." "And the fourth was a beryl, and *an onyx*, and a jasper: they shall be set in gold in their enclosings;" xxxv. 27, "And the rulers brought *onyx stones*, and stones to be set, for the ephod and for the breastplate," "and they brought *onyx stones* enclosed in ouches of gold, graven, as signets are graven, with the names of the children of Israel;" Job xxviii. 16, "It cannot be valued with the gold of Ophir, with the precious *onyx*, or the sapphire;" 1 Chron. xxix. 2, "*Onyx stones*, and stones to be set, glistering stones, and of divers colours, and all manner of precious stones, and marble stones in abundance;" Ezek. xxviii. 13, "Thou hast been in Eden the garden of God; every precious stone was thy covering, the sardius, topaz,

Fig. 56. Onyx-stone.

and the diamond, the beryl, *the onyx*, and the jasper, the sapphire, the emerald, and the carbuncle, and gold." One kind of stone is referred to in these verses, viz., the *shoham*, which our translators have consistently throughout rendered onyx. When we come to identify the other precious stones mentioned in the words now quoted, we shall see that there is no good ground for holding either that the *tarshish*, rendered "beryl" in Daniel x. 6, Ezekiel i. 16, and in other passages, or that *jahalom*, rendered "diamond" in Exodus xxxix. 11, Ezekiel xxviii. 13, and elsewhere, should be more correctly rendered "onyx." By such a process we would exclude the mention of the true onyx from Scripture, though its use in the East from time immemorial as a precious stone can be fully shown.

It seems, then, that the onyx of Genesis ii. is rightly held to be the stone still referred to under the same name. It is one of many varieties of precious stones which are grouped by mineralogists under the well-known term quartz—a mineral whose constituent ingredient is silex or flint. Quartz is very widely distributed throughout nature, and enters largely into the composition of some of the oldest rocks, as granite, for example. Under the name of rock crystal it is met with in forms and hues of great beauty. In its massive state it occurs in veins, associated with the old rocks. The crystals pass from colourless through the various hues of white, yellow, violet, rose, brown, and black. Thus we have the precious stones known as milky quartz, citrine, cairngorm, amethyst, rose quartz, brown topaz, &c. Non-transparent varieties of the finer kinds of quartz are known as jaspers; and semi-transparent varieties are named chalcedonies, under which the onyx is ranked. Chalcedonies are found of different colours. As agates they pass into such varieties as spotted agate, ribbon agate, fortification agate, cloudy agate, moss agate, &c. When the colours brown and white, or black and white occur in flat bands above each other, the chalcedony is named onyx, and is chiefly of two kinds, both of which are found in Bible lands, namely, Arabian onyx or black ribbon agate, and light brown and black onyx. Neither of these is abundant; but man's art has come in to gratify the demand for them, and both kinds of onyx are imitated and manufactured for purposes of trade. The more easily procurable rock crystal is artificially coloured, and passed off as native onyx.—(*Bischof.*) The onyx of Genesis appears thus to have been a chalcedony, and probably the name *shoham* was used to express more than one kind, according to the use to be made of it.

Fig. 57.

Arabian Onyx.

"And out of the ground the Lord God formed every beast of the field, and every fowl of the air, and brought them unto Adam, to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof;" "And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field: but for Adam there was not found an help meet for him"—ver. 19, 20. It is not of much moment to determine, even if it were possible, whether man's power would be equal to the task of naming every creature. He named all the types of life which God brought to him. This is indeed all that concerns us. There is no necessity for making out that Adam "named only a very limited group of animals," or for holding that the carnivorous beasts could have no place among those named, because paradise could not be a suitable place for them; and it is even less worthy of time and attention to consider this act in the light of the geological record, with the view of making out that only a small number of animals were created to be grouped around man, all the others having existed long prior to this period in the wilderness around the garden of Eden. The words are plain enough, supplying their own interpretation. The Lord summoned Adam to name the animals brought to him, "and whatsoever the man called every living creature (thus brought) that was the name thereof." The intelligence which was equal to the comprehension of the relation between the first covenant and the tree of knowledge, on the one hand, and man's responsibility, on the other, would not be at fault under the divine guidance, in discerning outward features, or even peculiarities of structure connected with food, of a kind sufficient as bases for discriminative characterization. The Creator had put them under his dominion; and the first evidence which we here have of the consciousness of this on the part of man, is when he proceeds to name the creatures given to him. This is interesting for another reason also. It is on this occasion that we first meet with man as "the speech-gifted" creature. The first recorded use made of the noble and divine gift was to name the lower animals. They were to be mixed up with all his most important experiences, and even after his fall he would be reminded of the original law of subjection to his will, as he met with the names which he had bestowed upon them, before the tempter beguiled him from that position of pure peace which was his in perfection as the creature of God. Much has been written, but to very little purpose, on the constitution of the lower animals and their attitude to man previous to the fall. It is habitually forgotten that the very words of the sacred volume give a distinct utterance on both of these points. The beasts were made after

their kind, and this specific character was perpetuated. We have no more reason to conclude that there was any change in the structure of the brute creation in consequence of man's sin, than we have that the structure of man's body was altered by his loss of innocence. If as to structure they continued unaltered, then as to the functions, naturally the fruit of this, they continued the same also: thus, for example, the distinction of sex was precisely the same before the fall as after it; thus in beasts the characteristic differences which at present obtain between the herbivorous and the flesh-eating mammals, existed in Eden as it had

Fig. 58.

Fig. 59.

Head and Foot of Golden Eagle (Aquila Chrysaëtus).

done up through the geologic ages. So in birds, the beak and talon, and the characteristic breastbone of the birds of prey (*Raptores*), were as necessary at that time to give them those generic marks of their being after their kind, as they are now.

As to the relation of the beasts to man, it was one of subjection: not only that they should minister to his use, but that they should be under his dominion—kept by him in their own domain. But instead of taking the plain declarations of Scripture as guides in these matters, even Christians have caught their views of Eden, and formed their impressions of the relations between man and the lower animals, from the fruits of the poet's "strong imagination." The Miltonic paradise is not the scriptural one, and far less is that of the old poet who thus describes its trees and birds:—

> "Its shady groves of noble Palm tree sprays,
> Of amorous Myrtles, and immortal Bays,
> Never unleaved; but ever more their new
> Self-arching arms in thousand Arbours grew:
> Where thousand sorts of Birds, both night and day,
> Did bill and woo, and hop about and play;

> And marrying their sweete tunes to the Angels' layes,
> Sung Adam's blss and their great Maker's prayse.
> For then the crowes, night ravens, and howlets' noise
> Was like the nightingale's sweet-tunéd voice:
> And nightingales sung like divine Orion,
> Like Thracian Orpheus, Linus, and Amphion."

These lines are quoted with the view of showing whence the popular notions of paradise were obtained. The general idea pervading them has still a strong influence over many; even the pulpit has lent its aid to perpetuate it, and thus—

> "The Book of God
> Is forced to yield to man's authority,
> Or from its straightness warped."—(*Dante*, Par. c. xxix.)

At several points in the preceding remarks on chapters i. and ii., the presence of a personal Creator has been noticed in connection with the introduction and ordering of new forms of animal life and of vegetation, while no mention has been made in the divine narrative of any other race of men than the Adamic. There are, however, certain current schemes of life in which men, deserting the "known track of sage philosophy," and striking into "byways of their own," have sought to promulgate views of the realization of different forms of life and of the natural history of man which must be regarded as in direct antagonism to the Word of God; even though, in one case at least, its authority is claimed in support of some of their positions. These views are connected with what are now well known as "the Theory of development," "the Darwinian Theory of the origin of species," and "the Theory of a race of pre-adamite men." A brief review of these is introduced at the close of our notes on Genesis

GENESIS III.

"NOW the serpent was more subtile than any beast of the field which the Lord God had made. And he said unto the woman, Yea, hath God said, Ye shall not eat of every tree of the garden? And the woman said unto the serpent, We may eat of the fruit of the trees of the garden: But of the fruit of the tree which is in the midst of the garden, God hath said, Ye shall not eat of it, neither shall ye touch it, lest ye die. And the serpent said unto the woman, Ye shall not surely die: For God doth know, that in the day ye eat thereof, then your eyes shall be opened; and ye shall be as gods, knowing good and evil. And when the woman saw that the tree was good for food, and that it was pleasant to the eyes, and a tree to be desired to make one wise, she took of the fruit thereof, and did eat; and gave also unto her husband with her, and he did eat. And the eyes of them both were opened, and they knew that they were naked; and they sewed fig-leaves together, and made themselves aprons. And the Lord God said unto the serpent, Because thou hast done this, thou art cursed above all cattle, and above every beast of the field: upon thy belly shalt thou go, and dust shalt thou eat all the days of thy life. And I will put enmity between thee and the woman, and between thy seed and her seed: it shall bruise thy head, and thou shalt bruise his heel." —Ver. 1–7, 14, 15.

Without entering on the spiritual and moral bearings of the verses now quoted, there are two things in them which must specially be noticed, viz., the references to the serpent, and to the aprons of fig-leaves. The former claims much attention, especially because of the unsatisfactory way in which it has been treated. It has not, so far as I am aware, been set in lights which either harmonize with other portions of scripture, or with the demands of the Christianized intelligence of the age. Critics and commentators either satisfy themselves by repeating what those who have gone before them have said, or by adding a few commonplace remarks about alleged changes of structure in this "wisest of the beasts of the field." The truth seems to be, that the explanation of this transaction given by Josephus, and the pictures of

the poets, have influenced even many most learned students of the Bible, when they were little aware of it. "God," says the Jewish historian ("Antiq." I. i., 4), "commanded that Adam and his wife should eat of all the rest of the plants, but to abstain from the tree of knowledge; and foretold to them that, if they touched it, it would prove their destruction. But while all the living creatures had one language, at that time the serpent, which then lived together with Adam and his wife showed an envious disposition at his supposal of their living happily, and in obedience to the command of God; and imagining that, when they disobeyed him, they would fall into calamities, he persuaded the woman, out of a malicious intention, to taste of the tree of knowledge. . . . . He also deprived the serpent of speech, out of indignation at his malicious disposition towards Adam. Besides this, he inserted poison under his tongue, and made him an enemy of man; and suggested to them that they should direct their stroke against his head, that being the place wherein lay his mischievous designs towards men, and it being easiest to take vengeance on him in that way: and when he had deprived him of the use of his feet, he made him to go rolling all along, and dragging himself upon the ground." "Hence it appears," gravely adds Whiston, the learned translator, "that Josephus thought several, at least, of the brute animals, particularly the serpent, could speak before the fall. And I think few of the more perfect kinds of those animals want the organs of speech at this day. Many inducements there are also to a notion, that the present state they are in is not their original state; and that their capacities were once much greater than we now see them, and are capable of being restored to their former condition."

The place of the serpent in the temptation has influenced all men's thoughts in regard to it, and instead of studying it, as they would do other animals, many theologians have imagined for it a natural history of its own. Thus Cruden, from the headings of whose valuable Concordance so many are willing to take their knowledge of Scripture, has, under the word "serpent," recorded such notes from its nature as the following:—"When he is old he has the secret of growing young again, and of stripping off his old skin, by squeezing himself between two rocks. He assaults a man if he has his clothes on, but flees if he finds him naked. When he is assaulted, his chief care is to secure his head; because his heart being under his throat, and very near his head, the readiest way to kill him is to squeeze or cut off his head. And many suppose that his chief subtility or wisdom, as the gospel calls it, consists

in this, that he chooses to expose his whole body to danger, that he may save his head. When he goes to drink at a fountain, he first vomits up all his poison, for fear of poisoning himself as he is drinking. Though this observation be not assented to by everybody, it has nevertheless a great many defenders." And, referring to the words—"They are like the deaf adder that stoppeth his ear," the illustration is at hand:—"It is said," continues Cruden, "it applies one of its ears hard to the ground, and stops up the other with the end of its tail." Then as to the words "Dust shall be the serpent's meat," he says, "It is true, however, that they eat flesh, birds, frogs, fish, fruits, grass, &c. But as they continually creep upon the earth, it is impossible but that their food must be often defiled with dust and dirt. Some of them may really eat earth out of necessity, or at least earth-worms, which they cannot swallow without a good deal of dirt with them." Much more of this kind of remark might be quoted from commentaries on the Holy Scriptures.

Poetry has also helped to convey erroneous impressions as to this passage. An old poet introduces Satan as assuming many forms ere he took to that of the serpent:—

"The fountain of our sorrow,
Thinks, now the beauty of a Horse to borrow,
Anon to creep into a Haifer's side;
Then in a cock, or in a dog to hide;
Then in a nimble Hart himself to shroud;
Then in the starr'd plumes of a Peacock proud;
And least he miss a mischief to effect,
Oft changeth minde, and varies oft aspéct.
At last remembering that of all the broods
In mountains, plains, airs, waters, wildes, and woods,
The knotty Serpent's spotty generation
Are filléd with infectious inflammation;
And though they want dog's teeth, bore's tusks, bear's paws,
The vulture's bill, bul's horns, and griphin's claws;
Yea seem so weak, as if they had not might
To hurt us once, much less to kill us quite;
Yet, many times they treacherously betray vs,
And with their breath, look, tongue, or train, they slay vs."

Milton, in "Paradise Lost," follows the older poet as regards the changes of Satan, and with even less regard to natural history. Thus, after describing the prowling wolf's method of getting at the shepherd's folded flock, when he—

"Leaps o'er the fence with ease into the fold,"

he continues the description of Satan's entrance—

"So clomb this first grand thief into God's fold.
Thence up he flew, and on the tree of life,
The middle tree and highest there that grew,
Sat like a cormorant."—(B. iv.)

Afterwards the guardian angels, Ithuriel and Zephon, are represented hastening—

"To the bower direct
In search of whom they sought; him there they found,
Squat like a toad, close at the ear of Eve,
Assaying by his devilish art to reach
The organs of her fancy, and with them forge
Illusions, as he list, phantasms and dreams;
Or if, inspiring venom, he might taint
The animal spirits."—(B. iv.)

Taking to himself in the long run the distinctive form, he is described, in lines of unmatched beauty, "addressing his way toward Eve"—

"Not with indented wave
Prone on the ground, as since; but on his rear,
Circular base of rising folds, that tower'd
Fold above fold, a surging maze; his head
Crested aloft, and carbuncle his eyes;
With burnished neck of verdant gold, erect
Amidst the circling spires, that on the grass
Floated redundant: pleasing was his shape
And lovely; never since of serpent kind
Lovelier. . . . . .
"Of his tortuous train
Curl'd many a wanton wreath in sight of Eve,
To lure her eye; . . .
He bolder now, uncall'd before her stood;
But as in gaze admiring: oft he bow'd
His turret crest, and sleek enamell'd neck,
Fawning; and licked the ground whereon she stood."—(B. ix.)

This picture has shed its influence into some of the most homely, but most precious Comments on the Word of God. "The Devil," says Matthew Henry, "chose to act his part in a serpent because it is a *specious* creature, has a spotted, dappled skin, and *then* went erect." He piously and very truly adds, "Many a dangerous temptation comes to us in gay, fine colours, but they are but skin deep." There are, no doubt, many difficulties in this whole narrative which it would be impos-

sible to get any light on, if we were to limit our attention to the words of Genesis; they must, however, be looked at in the light of other portions of the Word of God. To this I now turn, and in doing so would plead for the true historical character of the third chapter of Genesis. It is not a symbolic representation, it is not a poem, but a true history of some of the most momentous facts that the world has ever seen. The references to this chapter, both by our Lord and his apostles, show this.

If there be references in it which suggest relations between mind and matter—between the spiritual world and the material—which we cannot fully explain, let us not hide our ignorance behind fanciful attempts to solve all difficulties; because it is not in the word only, but even in connection with some of the natural objects with which we are most familiar, that we find much which forces us to say, "We do not know." The first question that meets us is, "Was the serpent a true serpent?" The answer to this is given in the narrative. It is mentioned as one of the "beasts of the field which the Lord God had made;" and when the curse was uttered against it, it was in the words, "Thou art cursed above all cattle, and above every beast of the field." It is impossible to explain away the natural meaning of these words by alleging that "this serpent was no common beast, no ordinary serpent." Neither does it strengthen one's trust in the narrative to be assured, that the whole transaction is designed to bring before us Satan only. There are expressions here which forbid such a construction. It has been urged that the presence of the Hebrew article before the original word points to a difference between this and all other serpents; but a little familiarity with the Scripture use of the term would have shown how groundless this is. In Numbers xxi. 9, Ecclesiastes x. 11, and Amos v. 19, the same form is used; and in these passages there can be no doubt that a common serpent is referred to. In the last it is associated with the lion and the bear:—"If a man did flee from a lion, and a bear met him; or went into the house, and leaned his hand on the wall, and a serpent bit him."

The passage in Genesis introduces us both to the true reptile and to Satan, the head of sin. This combination has been overlooked; yet it is here alone that we can find the key to two classes of Scripture texts. The language of the Bible is peculiarly exact in all references to the creature so intimately associated with the temptation. Others of the same family are referred to, but under different names, which would lead us to look for several species. The word in this passage is *Nahash*, and corresponds to the Greek term *Ophis*, from which in natural science the great order of true serpents is named—*Ophidia*. Following the scriptural

use of the word, we next find it in Genesis xlix. 17, "Dan shall be a serpent (*nahash*) by the way"—he shall be subtile, cunning, crafty—"an adder (*shephiphon*) in the path"—the cerastes, noted for its venom—he shall be hurtful to others. "And the Lord said unto him, What is that in thy hand? and he said, A rod. And he said, Cast it on the ground, and it became a serpent (*nahash*)"—an object of terror, for "Moses fled from before it."—(Exod. iv. 2, 3.) "And the Lord sent fiery serpents among the people, and they bit the people; and much people of Israel died. Therefore the people came to Moses, and said, We have sinned; for we have spoken against the Lord, and against thee: pray unto the Lord, that he take away the serpents from us. And Moses prayed for the people. And the Lord said unto Moses, Make thee a fiery serpent, and set it upon a pole: and it shall come to pass, that every one that is bitten, when he looketh upon it, shall live. And Moses made a serpent of brass, and put it upon a pole; and it came to pass, that if a serpent had bitten any man, when he beheld the serpent of brass, he lived."—(Numbers xxi. 6–9.) Here the same word is used throughout, except in verse 8, where we have another term introduced to express the bright or fiery appearance (*saraph*). "Who led thee through that great and terrible wilderness, wherein were fiery *serpents* and scorpions, and drought; where there was no water."—(Deut. viii. 15.) "Their poison is like the poison of a serpent (*nahash*), they are like the deaf adder (*pethen*) that stoppeth her ear."—(Psalm lviii. 4.) "Look not on the wine when it is red, when it giveth his colour in the cup, when it moveth itself aright. At the last it biteth like a serpent (*nahash*), and stingeth like an adder (*tzepha*)."—(Prov. xxiii. 32.)

It is suggestive that this same term is used for the constellation to which Job refers when he says, "By his spirit he hath garnished the heavens; his hand hath formed Nahash"—the crooked serpent (Job xxvi. 13); an expression to be kept in mind in connection with the worship of the serpent, to which reference will be made. The use of the New Testament equivalents for these words shows the same exactness and discrimination:—"Ye serpents (*ophis*), ye generation of vipers (*echidna*)," (Matt. xxiii. 33); "As Moses lifted up the serpent (*ophis*) in the wilderness" (John iii. 14); "For their power is in their mouth, and in their tails; for their tails were like unto serpents (*ophis*)" (Rev. ix. 19); "And he laid hold on the dragon (*drakon*), that old serpent (*ophis*) which is the devil and Satan" (Rev. xx. 2). Other expressions are used in the Old Testament for members of this class of creatures, as *zohhel*:—"I will also send teeth of beasts upon them, with the poison of serpents of

the dust"—*acksub*, adder or asp (Deut. xxxii. 24); "They have sharpened their tongues like a serpent: adder's poison is under their lips"—*epheh*, viper (Psalm cxl. 3)—"He shall suck the poison of asps, the viper's tongue shall slay him" (Job xx. 16). All this shows that the writers of Scripture had well-defined views of the nature of the reptiles, on the one hand; and of their fitness to shadow forth certain moral qualities, on the other hand.

But the serpent associated with the fall is represented as speaking to the woman. This is held to be an insurmountable difficulty, yet here the thoughtful reader may meet the solution of it:—Thought is above matter, and can act upon it. The spiritual world is above the world of mere animal nature; but there is not the slightest intimation in the whole Word of God that the one is isolated from the other, that there is no interaction between the two, that the spiritual may not act upon and through brute nature for purposes of good or evil. If these affirmations are countenanced by the Word of God, then much of the mystery which has hung around the mention of the serpent in this passage is cleared up. What is claimed is not care over, or even the use of the lower animals in connection with moral ends, but a nearer approach to it than this—the approach to it in absolute sovereignty on the part of the Creator, in order to display, or bring into power, that which is in the highest sense spiritual; and the approach to it, permissively, of him who was "a liar and murderer from the beginning," in order to the accomplishment of his own designs.

Leaving the temptation out of view for a little, look at God's use of the beasts. The whole subject is deeply interesting:—"And Balaam rose up in the morning, and saddled his ass, and went with the princes of Moab. And God's anger was kindled because he went: and the angel of the Lord stood in the way for an adversary against him. (Now, he was riding upon his ass, and his two servants were with him.) And the ass saw the angel of the Lord standing in the way, and his sword drawn in his hand: and the ass turned aside out of the way, and went into the field; and Balaam smote the ass, to turn her into the way. But the angel of the Lord stood in a path of the vineyards, a wall being on this side, and a wall on that side. And when the ass saw the angel of the Lord, she thrust herself unto the wall, and crushed Balaam's foot against the wall; and he smote her again. And the angel of the Lord went further, and stood in a narrow place, where was no way to turn either to the right hand or to the left. And when the ass saw the angel of the Lord, she fell down under Balaam: and Balaam's anger was kindled,

and he smote the ass with a staff. And the Lord opened the mouth of the ass; and she said unto Balaam, What have I done unto thee, that thou hast smitten me these three times? And Balaam said unto the ass, Because thou hast mocked me: I would there were a sword in mine hand, for now would I kill thee. And the ass said unto Balaam, Am not I thine ass, upon which thou hast ridden ever since I was thine unto this day? was I ever wont to do so unto thee? And he said, Nay."—(Num. xxii. 21–30.) The ready answer to all this on the part of those who wish to banish everything like miracle from the Scriptures, and who are ever anxious to make, as it were, an apology for the "seemingly miraculous," would no doubt be, that the false prophet's mind was very much excited, and that he *imagined* all this. But we are not allowed to entertain such a thought. The direct reference to the transaction in the New Testament is decisive as to its being real:—"Which have forsaken the right way, and are gone astray, following the way of Balaam the son of Bosor, who loved the wages of unrighteousness: But was rebuked for his iniquity; the dumb ass speaking, forbad the madness of the prophet," (2 Peter ii. 15, 16). The influence of the same power is seen in the case of Jonah:—"Now the Lord had prepared a great fish to swallow up Jonah. And Jonah was in the belly of the fish three days and three nights. Then Jonah prayed unto the Lord his God out of the fish's belly. . . . And the Lord spake unto the fish, and it vomited out Jonah upon the dry land" (Jonah i. 17; ii. 1, 10). Our Lord himself acknowledged the historical character of this when he said, "As Jonas was three days and three nights in the whale's belly; so shall the Son of man be three days and three nights in the heart of the earth" (Mat. xii. 40). Jesus, as the Lord of Nature, once and again showed how all things obeyed him. One example will occur to most, viz., that of the stater in the fish's mouth—"Lest we should offend them, go thou to the sea, and cast an hook, and take up the fish that first cometh up; and when thou hast opened his mouth, thou shalt find a piece of money; that take, and give unto them for me and thee" (Mat. xvii. 27). From these passages it is plain that God could, and did, use the lower animals in as wonderful a way in order to good, as Satan here used the serpent in order to evil. Besides, we have proof that such influence has been permitted to him. It has not been appointed to him, but, in virtue of his spiritual power, he has not been hindered from taking it. The whole miracle of the cure of the Gadarene demoniac testifies to this. The devils truly entered into the swine, and so influenced them that they hastened over the cliffs into the sea, and were killed. Jesus did not

send them into the swine, but he did not hinder them from taking their own way. It is thus clear, from Scripture, that such a power of that which is spiritual over brute nature as seen in the temptation, is more than once recognized in the Word of God. This of itself strips the narrative of much of its strangeness; it indeed removes its chief difficulty. Even in man's relations to the lower animals we see something of the same kind: we see him leaving the impress of his mind and affections on the beasts put under him so strongly, that they show the power of both in their actions. "In our common life the horse, and the dog no less, are eminently receptive of the spiritual conditions of their appointed lord and master, Man. With what electric swiftness does the courage or fear of the rider pass into the horse; and so, too, the gladness or depression of its master is almost instantaneously reflected and reproduced in the faithful dog!" The poet carries these thoughts into other relations, and addressing Satan, the "ruthless murderer of immortal souls," he pictures him as bringing down man, "whose spirit goeth upwards," to the level of the beasts, "whose spirit goeth downwards:"—

"Thou play'st the Lion when thou doost ingage
Blood thirsty Nero's barbarous heart with rage,
While flesht in murthers (butcher-like) he paints
The saint-poor world with the deer blood of saincts.
Thou play'st the Dog, when by the mouth profane
Of some false prophet thou doost belch thy bane.
Thou play'st the Swine, when plunged in pleasures vile,
Some epicure doth sober minds defile.
Thou play'st the Nightingale, or else the Swan,
When any famous rhetorician,
With captious wit, and curious language, draws
Seduced hearers, and subverts the laws.
Thou play'st the Fox, when thou doost fain aright
The face and phrase of some deep hypocrite."

Such figures are no doubt fanciful; but may not our Lord have had in view the same aspects of truth when he characterized the crafty king as "that fox Herod," and the bitter-hearted pretenders of his day as "a generation of vipers?"

There are, however, many other difficulties connected with this transaction. Does what we know of the habits of serpents warrant us to speak decidedly as to their cunning being greater than the other "beasts of the field which the Lord God has made?" There may be much in the noiseless way in which the serpent winds its deadly coils around its victim, and much in the fascinating glance of its bright eye to suggest

something like this; but there can be no doubt that it is far less subtile in its mode of taking its prey than many other creatures are. There is no necessity here to make out a disposition of superior subtilty in order to corroborate the words in Genesis iii. 1. Its craft is directly associated with the evil Will which was now acting on it and through it, in the manner indicated above—the will of him who was "a liar from the beginning." The first words spoken declare, by their abruptness, point, and power to arrest the attention of the good, were it for no other purpose than to put the speaker right, that the evil mind now acting on it was full of "all subtilty and all mischief." As thus used by Satan, "the serpent was more subtile than any beast of the field." There is literally nothing in this passage to indicate that craft and cunning are affirmed of the serpent, apart from its presence as completely under the control of spiritual wickedness. The complete identification of the beast with the bad angel is all that is referred to. Thus there is no break in the narrative, no filling in of an explanatory sentence between the former and latter parts of the verse, such as 'When the devil had entered into it,' "he said unto the woman." The act of possession, of entering in, and complete subjugation of the brute to the evil spiritual nature, is not described here. In some other cases the link missing here is supplied. Thus, in the account given by Mark (chap. v.) of the demoniac at Gadara, it is distinctly said—"The unclean spirits went out, and entered into the swine, and the herd ran violently down a steep place into the sea." So, too, when the devil took complete control both of the mind and body of Judas, it is said, "And after the sop Satan entered into him." "He then, having received the sop, went immediately out; and it was night." (John xiii.)

The direct address of the Creator to the serpent has been surrounded with unnecessary mystery—"And the Lord God said unto the serpent, Because thou hast done this, thou art cursed above all cattle, and above every beast of the field: upon thy belly shalt thou go, and dust shalt thou eat all the days of thy life. And I will put enmity between thee and the woman, and between thy seed and her seed: it shall bruise thy head, and thou shalt bruise his heel."—(Ver. 14, 15.) The reptile and its indwelling evil spirit are now regarded as one, and the address, which proceeds on the recognition of this relation, is of two parts, answering to the two natures—the body of the reptile, and the mind of the evil spirit. This direct mode of address to the lower animals has its illustration in the narrative of creation. Thus to the fish of the sea and the fowl of the air God said—"Be fruitful and multiply, and fill the waters

in the seas, and let fowl multiply in the earth." The expression of the will of the Creator became thus a law of their being. There is, moreover, the well-known revelation of a yet higher influence of God over his creatures in 1 Kings xvii. 3, 4—"Get thee hence and turn thee eastward, and hide thyself by the brook Cherith, that is before Jordan. And it shall be that thou shalt drink of the brook; *and I have commanded the ravens to feed thee there.*" In 2 Chron. vii. 13 he speaks of himself as one that can "*command the locusts to devour the land.*" And in Amos ix. 3 we have the striking words—"Though they hide themselves in the top of Carmel, I will search and take them out thence; and though they be hid from my sight in the bottom of the sea, thence *will I command the serpent*, and he shall bite them." Many other passages will readily occur to the reader; and though, as is the case with the last quoted, the words may sometimes be highly figurative, they yet illustrate this sovereignty seen in the curse pronounced on the serpent.

The chief difficulty remains. The general and popular impression of the 14th verse has been, that there were no serpents before the time of our first parents, and that at the fall some change was made in the structure of this creature. Is there anything in this verse which shuts us up, of necessity, to this impression? I think not. There were serpents on the pre-adamic earth whose structure was analogous to the true serpents (*Ophidia*) of our day. Geological discoveries have put this as much beyond doubt as the fact that there were shellfish in those primeval times. Professor Owen has pointed out in the following table, copied from his work on "Palæontology," the distribution of the *Reptilia* in pre-adamic times.

Fig. 60.

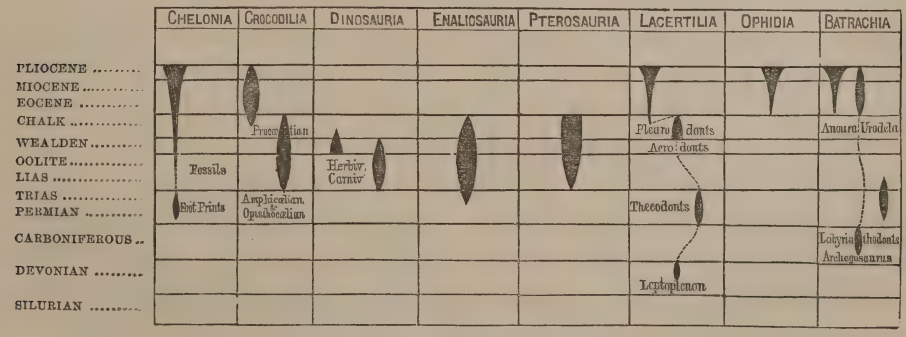
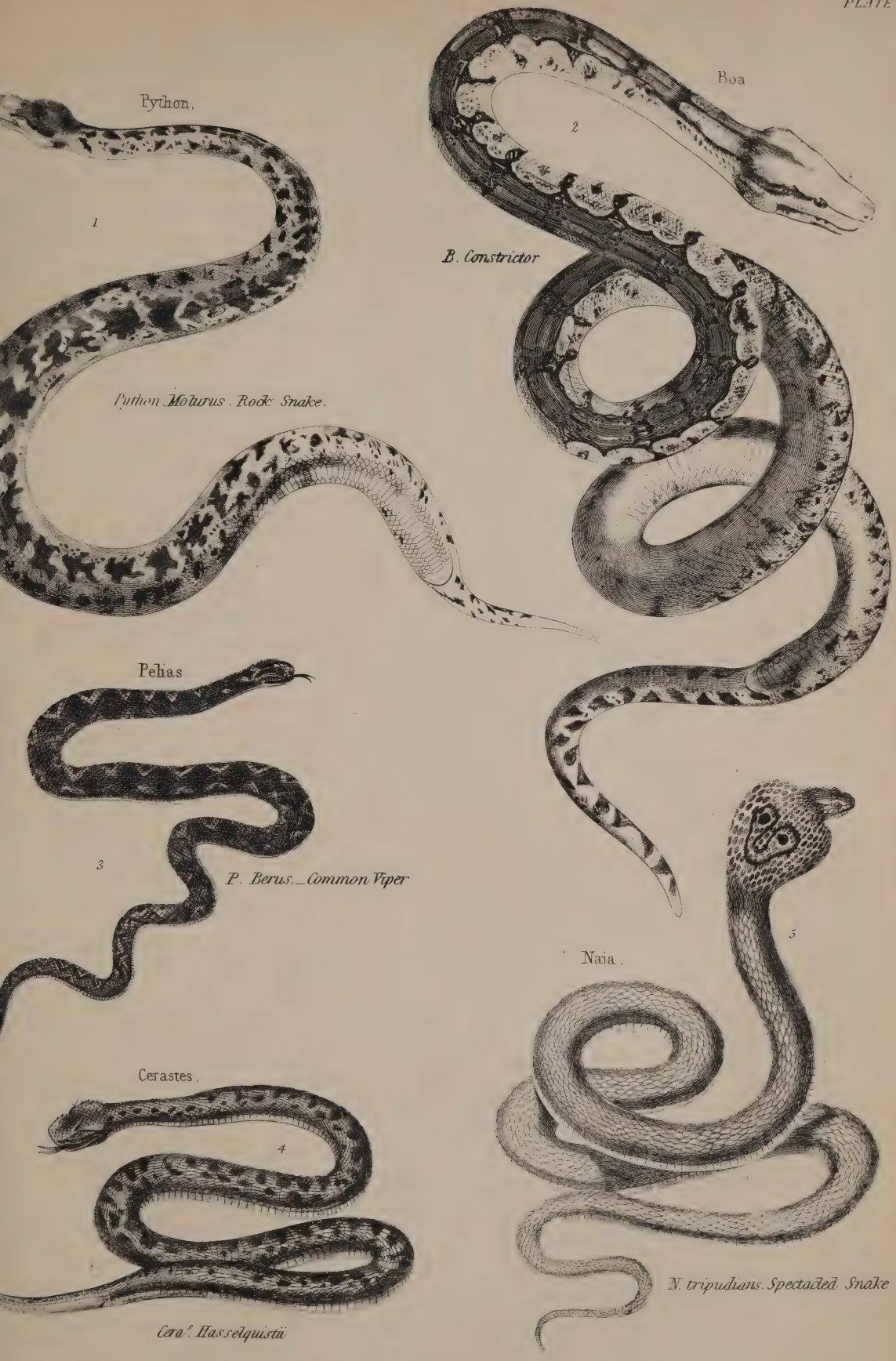


Table of Geological Distribution of Reptiles.

It will be seen from this table that the *Ophidia* range from the top of the Chalk, up through the Tertiary group of rocks, and culminate at the top of the highest member of that series—the Pliocene. "The earliest

evidence," says Professor Owen, "of an ophidian reptile has been obtained from the eocene clay of Sheppey; it consists of vertebræ indicating a serpent of twelve feet in length, the *Palæophis toliapicus*. Still larger, more numerous, and better preserved vertebræ have been obtained from the eocene beds of Bracklesham, on which the species *Palæophis typhœus* and the *Palæophis porcatus* have been founded. These remains indicate a boa-constrictor-like snake of about twenty feet in length. Ophidian vertebræ of much smaller size, from the newer eocene at Hordwell, support the species *Paleryx rhombifer* and *Paleryx depressus*. Fossil vertebræ from a tertiary formation near Salonica have been referred to a serpent, probably poisonous, under the name of *Laophis*. A species of true viper has been discovered in the miocene deposits at Sansans, south of France." In Professor Owen's description, many years ago, of the species first named, one of those inductions in regard to associated forms of life occurred which are so often to be met with in natural science. We are well acquainted with the favourite food of living pythons and boas, and proceeding on this knowledge, he added—"If, therefore, there had not been obtained direct evidence of both birds and mammals in the London clay, I should have felt persuaded that they must have coexisted with serpents of such dimensions as the species of which the dorsal vertebræ are here described."

There can then be no manner of doubt that serpents existed in pre-adamic times, and that their structure, and, by fair inference, their habits, corresponded with the structure and habits of those which now inhabit various parts of the world. This fact is of course fatal to all attempts to make out a case of direct interference with the structure of the serpent because of the transaction in Eden. Neither does it favour any speculations, professedly based upon the inductions of "philosophic naturalists," as to the serpent being the "extreme of animal degradation," even its very type and exemplar. "How remarkable the fact," says Hugh Miller, "that the reptile selected as typical here of the great fallen spirit that kept not his first estate, should be at once the reptile of latest appearance in creation, and the one selected by the philosophic naturalist as representative of a reversed process in the course of being —of a downward, sinking career, from the vertebrate antetype towards greatly lower types in the invertebrate divisions!" The remark, however, is more striking than true. It might be shown that the structural peculiarities of the Ophidians have much about them to indicate a connection between them and the fishes below them, on the one hand, and the birds and mammals above them, rather than, on the other hand,



GENESIS III. 1; XLIX. 17: JEREMIAH VIII. 17: AMOS IX. 3: MATTHEW X. 16.

with the invertebrate types of life; as, for example, in breathing by lungs, in their digestive organs, in the organs which serve in the higher vertebrate animals to give forth sounds, in the bones of the head, in the brain, in the structure of the vertebral column, and in the organs of reproduction.

The sentence pronounced on the serpent assumes two aspects. Its body was cursed, and permanent antagonism between its seed and the seed of the woman was declared. But here, again, it is impossible to separate between the beast and the personal evil—the bad angel—who had thus used it in order to his own purposes. The first expressions plainly refer to something in regard to the body of the reptile, which in all times was to characterize it as accursed. It has, however, been remarked already that now, as ever, it follows its own nature. Where, then, is the curse? Bear in mind what is said of the man, whose whole nature yielded without resistance to the same evil power. "Thou art cursed from the earth," was the sentence uttered against Cain, though as to mental and physical constitution all his faculties retained their identity. So here. The instrument and the agent both are set apart as cursed. The former carries the curse about with it, as it trails on its belly among the dust of the world, loathed, hated, turned away from by man. Cain's curse was not only realized in his own consciousness, but it came home to him as peculiarly poignant when he thought that not only was he avoided, but that, as the race increased, he might count on something more. "My punishment," he said, "is greater than I can bear." "It shall come to pass that every one that findeth me shall slay me." And thus is the serpent cursed in the very attitude of man to it. The strong expressions as to creeping on "its belly, and eating the dust all the days of its life," have much light shed on them indirectly in other portions of Scripture. That the original structure of the serpent was good after its kind cannot be doubted; but here that form, replete, as all others, with evidences of creative skill, and containing much in it prophetical, as it were, of some of the most important parts of the human skeleton, has a far different thought now associated with it. But the truly good may come to be linked up with a curse. "Thus saith the Lord of Hosts, I will even send a curse upon you, and I will curse your blessings." Even vegetation may be made to bear direct testimony to the same truth. "Master, behold the fig-tree which thou cursedest is withered away" (Mark xi. 21). In Leviticus xi. 42, "whatsoever goeth upon its belly" is characterized as "an abomination;" and in Psalm xliv. 25, those cast down, and feeling as if under

a curse, speak of themselves as men whose "belly cleaveth unto the earth." Again, such references as the following are suggestive in connection with this curse:—"I will send the teeth of beasts upon them, with the poison of serpents of the dust" (Deut. xxxii. 24). Man is abased, and he joins the mention of himself with the dust—"My flesh is clothed with worms and with clods of dust" (Job vii. 5); "Thou hast brought me into the dust of death" (Ps. xxii. 13). The extreme degradation of all opposed to the truth is thus stated—"His enemies shall lick the dust" (Ps. lxxii. 9); "They shall lick the dust like a serpent" (Mic. vii. 17).

In the other part of the curse the agent of evil is specially addressed. He was to have a seed—a people in the world, who should serve him, and over whom he should reign as the "Prince of this world;" and the woman, who was in the transgression, was to have a seed likewise, specially distinguished by this, that it should ultimately destroy, cast down, overcome the seed of the serpent, now to be known as "that old serpent called the Devil." The history which traces and which unfolds the fruits of this antagonism, has very many points in it suggestive of the relation formed between man and the beasts in Eden. These will come to be noticed in their place. But before leaving this subject, it may be profitable to refer to the remarkable influence which this association of man with the serpent has had upon the world. Traditionally, it seems to have gone with the human race wherever they wandered, and in what circumstances soever their lot was cast. All the great branches of the human family appear to have come, more or less, under its influence. In China and India, in Egypt and Persia, in Greece and in Rome, it has been the object of the worship of fear. By a natural law that which is dreaded comes to be propitiated, and, according to well-known principles, objects long propitiated come to be regarded with something like esteem. Thus the twofold worship of the serpent. Thus, too, the explanation of its place as a type of blessing—of healing, of health.

The order *Ophidia*, or true serpents, has ranked under it the following six families:—

Crotalidæ,	Rattlesnakes
Viperidæ,	Vipers.
Colubridæ,	Snakes.
Hydrophidæ,	Water-snakes.
Dendrophidæ,	Tree-snakes.
Boidæ,	Boas.

The fossil forms have already been named. The true rattlesnakes are

confined to America, though certain closely related forms are found both in the East and West Indies. The vipers and snakes are met with in most parts of the world. The water-snakes occur in the Indian Ocean and its neighbouring seas. The tree-snakes are found in Asia, Africa, and America. The boas in Asia, Africa, and America—the true boas being confined to America, and the genus Python being the Asiatic and African form of these large ophidians. In other portions of Scripture we will have to notice somewhat fully several species of vipers and snakes. Fig. 1, Plate IV., represents one of the pythons of Asia, the rock-snake (*P. molurus*). The ribs (Plate IX., Fig. 4) are highly flexible, and seem to be used by these reptiles when creeping. The pythons are not venomous, but destroy their prey by coiling in deadly folds around their victims. Once in their grasp, the most powerful quadrupeds become helpless. The prey is crushed by the force of the encircling folds, and swallowed in the entire mass. Deer, sheep, goats, and even cattle, are thus devoured. Pythons when full-grown attain the average length of twenty to twenty-five feet, though some have been described as being nearly three times that length. Their tails are prehensile. Fixing them around the branches or trunks of trees, they dart on their prey, and drag it to the position to which the tail clings. A remarkable feature in their structure is the presence near the tail of two movable hooks, which may be regarded as rudiments of feet. That the reader may compare the forms *Python* and *Boa*, a representation of the latter is also introduced on Plate IV., Fig. 2.

In considering the curse on the ground, in order that an explanation may be given of the thorns and thistles associated with this, it may help to give completeness to the notice if at the same time that part of the sentence against Cain, which refers to his relation to the soil, be looked at:—"And unto Adam he said, Because thou hast hearkened unto the voice of thy wife, and hast eaten of the tree, of which I commanded thee, saying, Thou shalt not eat of it: cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life: Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field. In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken; for dust thou art, and unto dust shalt thou return."—(Ver. 17–19.) "And the Lord said unto Cain, Where is Abel thy brother? And he said, I know not. Am I my brother's keeper? And he said, What hast thou done? the voice of thy brother's blood crieth unto me from the ground. And now art thou

cursed from the earth, which hath opened her mouth to receive thy brother's blood from thy hand. When thou tillest the ground, it shall not henceforth yield unto thee her strength. A fugitive and a vagabond shalt thou be in the earth."—(Chap. iv. 9–12.) The views of the just and holy God regarding the sin which at the fall was realized on the earth, and in the earthly inhabitant, were thus clearly marked. The condition of the serpent was associated with a curse. The proud spirit who had "kept not his first estate" had an increase of degradation heaped on him by being forever represented by the serpent, "the old serpent." In the perpetuation of the race, the woman was ever to be reminded of Eden, where innocence was lost. The very earth itself came under the curse: "cursed is the ground for thy sake:"—

> "Her rash hand, in evil hour,
> Forth reaching to the fruit, she plucked, she ate!
> Earth felt the wound, and Nature from her seat,
> Sighing through all her works, gave signs of woe,
> That all was lost."

The points to be noticed here are (1) The altered relation between man and the earth. The original tie is stated in chapter ii., "The Lord God took the man, and put him into the garden of Eden to dress it and to keep it." This verse alone flatly contradicts all imaginations as to a golden age, when the soil needed not to be cared for, and when the tidings even of evil had not reached the world. The garden was to be dressed—its rank luxuriance was to be kept down, and the fruitfulness of its generous soil to be modified in one point and another; for the herbs which served the beasts for food would come under the same fertile influences as did those which were for the sustenance of the human pair. The garden was to be kept—not tended merely, but watched—that intruding evil might be put at a distance. It appears clear from this, that intimation had been given of danger from some quarter. Work and watchfulness were the natural accompaniments of innocence. The necessity to work is thus not a result of sin; it has the dignity of the unfallen state about it. Nevertheless there was a change; the soil became changed as regarded its gifts to man. Formed of the same constituents as before, it yet yielded not its treasures for man's use as it had done; and the simplest change in its relation to the rain, the dew, the sunlight, could make hardest toil a stern task—"In the sweat of thy brow shalt thou eat bread." No fanciful interpretation is needed. The principle implied here runs throughout the entire Scriptures. The sovereignty of God

over the soil is as distinctly expressed as his sovereignty over man himself. Take the following as examples:—

> "He turneth rivers into a wilderness,
> And the water-springs into dry ground;
> A fruitful land into barrenness,
> For the wickedness of them that dwell therein."—(Ps. cvii.)

But when he meets with a people willing to acknowledge that though "iniquities prevail against them," yet they know he is willing to "put them all away," then of what pictures of beauty and fertility does he enable them to sing—

> "Thou visitest the earth and waterest it;
> Thou greatly enrichest it with the river of God, which is full of water;
> Thou preparest them corn, when thou hast so provided for it.
> Thou waterest the ridges thereof abundantly; thou settlest the furrows thereof;
> Thou makest it soft with showers; thou blessest the springing thereof:
> Thou crownest the year with thy goodness;
> And thy paths drop fatness."—(Ps. lxv.)

Indeed there are few relative subjects of truer and deeper interest than this one, in which we see the ways of God as just and holy, set before us in his attitude even to the soil. The passages quoted sufficiently indicate this; but how abundant the illustrations afforded by a survey of the present condition of those lands in which, in past ages, he made himself truly known to man! Let him only bind up his clouds that they drop not rain for a series of years, in any large tract of country, and even most fertile spots would become like the Sahara. This is the principle involved in the curse on the ground, and yet a blessing lies alongside of it. The shadows, however, are all the darker because of the brightness of the light around them. That under any circumstance it was to yield bread, implied God's willingness to bless the man when the now averted face should come to be turned to him again. Blessing was to go hand in hand with effort: bread was to be given as the reward of work. But there was an exception, which is brought out as the stream of history widens—"The Lord said unto Cain, When thou tillest the ground, it shall not henceforth yield unto thee her strength." He might work, and reap the fruits of work, yet these to him would not bring satisfaction: his face was turned away from God, and he could have no comfort in all the works of his hands. An unquiet conscience can take the blessing from the good things of the world. Then, as now, it was true that "the meek shall inherit the earth."

Let it be borne in mind here that the curse in its absolute form is stated immediately after the fall, and when there was no evidence of repentance, but the contrary. The promise to man, however, implied under the threatening against the great head of sin, in verse 15, was to be fruitful in results of varied blessing, especially when believed on. The world owes all the good it has ever enjoyed to the attitude which the eternal Son assumed towards man. So wide-spread is the influence, that even those who never feel personally blessed by it, are indebted to it for all the blessing which falls to their lot.

(2.) Thorns and Thistles are mentioned first in connection with the change in man's relation to the soil. The terms, as used in this pas-

Fig. 61.

1. Christ's Thorn (*Rhamnus spini Christi*). 2. Prickly Rest-harrow (*Ononis spinosa*). 3. Prickly Mad-apple (*Solanum spinosum*). 4. Blackthorn (*Prunus sylvestris*). 5. Boxthorn (*Lycium horridum*).

sage, are to be regarded as employed in a very wide sense, and to include every plant which has spines and is hurtful to the fertility of the soil. The words have a wider range than that of merely pointing to plants held to be natives of Palestine, or of the countries associated

with the birthplace of the human race. It would thus be aiming at greater precision than the context demands, to try and identify the two words used here—thorns (*kotz*) and thistles (*dardar*)—with any particular species. The terms are generic, not specific—they point to all plants bearing thorns or prickles, and not to certain species. They are met with together in another passage:—"As for Samaria, her king is cut off as the foam upon the water. The high places also of Aven, the sin of Moab, shall be destroyed. The thorn (*kotz*) and the thistle (*dardar*) shall come up on their altars" (Hos. x. 7, 8). When species are mentioned, other words are generally used, and of these there are about twenty different ones referred to under corresponding terms. These will be noticed as they occur; meanwhile, it may be stated here, that, in so far as they have been identified, they may be arranged in the following manner. The British species mentioned are such as the reader must be familiar with, and will help to give definiteness to his knowledge of corresponding plants mentioned in the Bible. *The British species, however, are not given as equivalents, but merely as illustrations.*

GENERAL DESIGNATIONS.

KŌTZ, DARDAR = THORN, THISTLE.

Natural Orders.	Hebrew Names.	British Species.
1. Blackthorn Tribe (*Rhamnaceæ*).	1. Shāmir, Isa. vii. 23,24 (*Rhamnus spini Christi*), Christ's Thorn.	1. Common Buckthorn (*Rhamnus catharticus*).
2. Pod-bearing Tribe (*Leguminosæ*).	2. Kotz, Jud. viii. 7 (*Ononis spinosa*), Rest-harrow.	2. Rest-harrow (*Ononis spinosa*).
3. Nightshade Tribe (*Solanaceæ*).	3. Hhēdek, Prov. xv. 9 (*Solanum spinosum*), Mad-apple.	3. Woody Nightshade (*Solanum Dulcamara*).
4. Rose Tribe (*Rosaceæ*).	4. Hōahh, Hos. ix. 6 (*Prunus sylvestris*), Blackthorn.	4. Sloe (*Prunus spinosa*).
"	Barkānim, Jud. viii. 7 (*Rosa canina*), Briers.	Dog Rose (*Rosa canina*).
5. Liliaceous Tribe (*Liliaceæ*).	5. Atād, Psal. lviii. 9 (*Ruscus aculeatus*), Knee-holly.	5. Butcher's Broom (*Ruscus aculeatus*).
6. Composite Tribe (*Compositæ*).	6. Dardar, Hos. x. 8 (*Carduus syriacus*), Syrian thistle.	6. Field thistle (*Carduus arvensis*).

This table is given solely as a guide for references to be afterwards made to several other words, and to many other passages of Scripture in which certain prickly plants are mentioned under the names—thorn, thistle, brier, &c. Of course, any arrangement like that given above is to be held only as an attempt to indicate what may have been the species

referred to, and what, in all likelihood, must have been the families under which the different species might be grouped. Even the closest study of the plants of Palestine and the adjoining countries, could not give us complete certainty as to species, because, in the allusions made to them, the writers of Scripture had no scientific ends in view. The references would, however, answer their purpose, which was that of popular instruction in spiritual and moral truth. The plants whose modern botanical names are given under their Hebrew designations, are all to be met with in Bible lands.

Are we to regard the thorns and thistles as the expression of the

Fig. 62.

1. Brier (*Rosa canina*). 2. Bramble (*Rubus fruticosus*). 3. Hawthorn (*Cratægus Oxyacantha*). 4. Knee-holly (*Ruscus aculeatus*). 5. Syrian thistle (*Carduus syriacus*).

curse on vegetation? Much, and to little purpose, has been written on this. Fancy has been allowed to override sober science, and the general conclusion has been hastily come to, that but for the fall there

would have been neither thorns nor thistles. There is, however, nothing in the Scripture narrative to warrant this; the words are, "Thorns also and thistles shall it bring forth to thee"—instead of plants good for food and pleasant to the sight, noxious weeds were to prevail. If the gifts were withheld which would naturally develope the good, profitable, and beauteous forms of vegetation, so that they should overtop and keep down the thorns and the thistles, the consequence would be the triumph of the latter. Everywhere this may still be seen. Man's toil was to be put forth, and God was to bless it, so that he should eat bread as the reward of work. This toil is the effort which man makes to neutralize the curse; and as all improvement co-operates with the goodness of God in order to good results, the blessing comes in that being made up by labour which had been withdrawn from the earth because of man's sin. These remarks are not, as at first sight they might seem to be, applicable only to temperate or to cold climates, in which there is no spontaneous luxuriance of vegetation; they are equally applicable to the production of the staple article of man's food in all climates, whether that be wheat (*Triticum vulgare*), maize (*Zea Mays*), or rice (*Oryza sativa*).

Looking at the thorn in the light even of physiological botany, I would be unwilling to concede that thorns are the fruit of a permanent blight on certain plants. They are no more so than the quills of the porcupine, or the spines of the sea urchin, or the bristles on the hedgehog. In plants bearing true thorns, one or other of two things is true: the thorns are either a special form of the branch, or of the leaf. The usual way of characterizing them is, to call them abortions or arrested growths. The Hawthorn, the Sloe (*Prunus spinosa*), and many other plants bear spines, which are developed from buds identical with those which have, in other cases and on the same plants, become well-formed branches. In the common furze (*Ulex Europæus*) again the spines are so-called aborted leaves. Now, it has not, so far as I am aware, ever been alleged that the Rose bears about it any evidence of blight. Both in Scripture, and in the poetry of almost every nation where it is to be met with, it is spoken of as a symbol of sweetness, of beauty, and of fertility—"I am the Rose of Sharon;" "The desert shall rejoice and blossom as the rose." From the testimony of Hasselquist, we learn that all the leading varieties of the Rose are represented in Bible lands—some of which are, indeed, noted for this plant. Yet its hairs have in part undergone a change analogous to that seen in the branch buds of the hawthorn (*Cratægus oxyacantha*), and in the leaves of the furze; they have united, become hardened, and formed into prickles. This is a law of their growth. In

their case the perfect development of the hair has been as much interfered with as that of the branch of the hawthorn, or the leaf of the furze.

The same views have been taken in regard to the Thistle. The calyx in their case is the organ on which it is alleged the blight has become permanent. This, it is held, has been arrested, and there has been deterioration. The mistake is again made in believing that the curse was made to fall on the vegetation itself, and not on the soil. These things have been put forth with pious intent, no doubt, and have served for purposes of moralizing; but in seeking evidences of blight, the evidences of blessing, which are ever higher and even more influential, have been lost sight of. This is apparent when we see in the transformed branch-bud, or leaf-bud, or in the hair, adaptations to the place in nature assigned to the characteristic plants, and means for the preservation of the species on the earth. It is true that, under certain methods of cultivation, the spines in some of these plants can be greatly modified or even done away with, as in the case of the Rest-harrow, for example, in which accidents of soil show us the prickly Rest-harrow (*Ononis spinosa*) passing into the unarmed variety (*Ononis inermis*). But in other cases cultivation only gives length to the spines. The situations which, as God's means for carrying out the curse, they occupy in the desert, the wilderness, the barren land, the soil "nigh unto cursing," demand an armature suited to their positions for self-defence in growth and in seed-bearing. In the case of the thorns and thistles, as in very many other allusions to external nature in the Word of God, to claim that certain spiritual truths necessarily underly them, is to lose what they do teach, if these claims cannot be shown to fit into well ascertained facts in science. There is far more and far deeper meaning in connection with the wisdom of God in creation—in seeing, as here, that the spines on certain plants are proofs of God's goodness in adapting them to circumstances in which they may propagate their kind—than there ever could be in connection with his wrath, if well-founded scientific objections can be made to the latter view. When the Creator gave to some reptiles their terrible poison-fangs, and to some insects their deadly stings, he had as high ends in view in the economy of nature, as he had in making other reptiles harmless and other insects stingless. That he sent the poisonous serpents among a backsliding people, and the hornet against the enemies of a nation that trusted in him, in nowise warrants us to conclude that this was the only purpose which these forms of life served in the world. And that he used the thorns and thistles in carrying out

the curse on the ground after the fall, does not imply either that they were themselves accursed, or that they serve no other purpose still but that of hindering fertility. A little thought, touching the economic uses of certain species belonging to both kinds, might supply much interest to all.

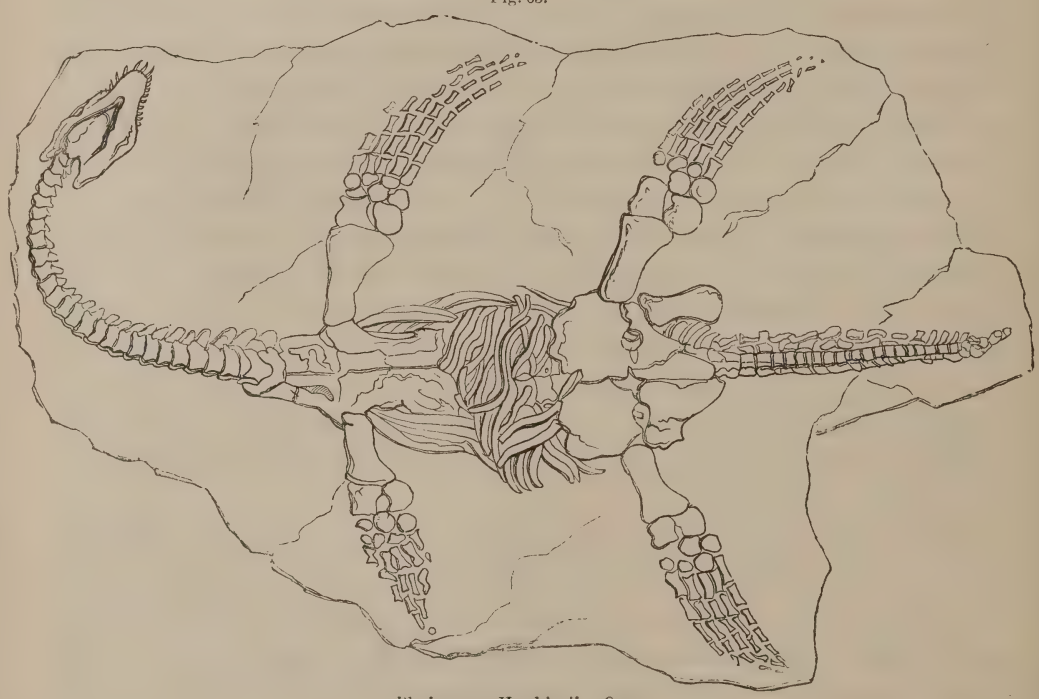
In verse 19, an aspect of the curse much more awful than any yet referred to is brought out with much distinctness:—"In the sweat of thy face thou shalt eat bread, *till thou return unto the ground: for out of it wast thou taken: for dust thou art, and unto dust shalt thou return.*" In the original terms of the covenant regarding the tree of "the knowledge of good and evil," the penalty is thus stated—"In the day that thou eatest thereof, thou shalt surely die." This was well understood, and acquiesced in by our first parents. Accordingly, when the subtile tempter raised the question so abruptly—"Yea, hath God said, Ye shall not eat of every tree of the garden?" Eve's reply acknowledged the rectitude and propriety of the prohibition—"And the woman said unto the serpent, We may eat of the fruit of the trees of the garden; but of the fruit of the tree which is in the midst of the garden, God hath said, Ye shall not eat of it, neither shall ye touch it;" and the threatened penalty was fully in view, for she added, "Lest ye die." The responsibility of Adam and his wife, indeed, stood in this clear understanding of the will of God. The prohibition was disregarded, the covenant was broken, and the penalty was realized. Even at that moment man in a sense died, and all in him—"Death passed upon all men." The death was double, as shall be seen:—The soul became dead to God and all good, "dead in trespasses and sin;" and the body, after a time, was to die, in the sense of dying under which animated matter may come—it was to return to the dust whence it was taken.

What, then, was implied in all this?—1, Loss of friendship with the Creator on earth; 2, Exclusion from eternal life with him; 3, The realization in man of a power not of God—in a word, SIN, the corruption and blight both of his moral and his spiritual nature; 4, The death of the body, physical death as well as spiritual, and the liability of the body, thus separated from the dominion of the pure and the spiritual, to sickness, to disease, to infirmity. Gather, then, together all the elements of positive degradation which the Scriptures associate with the condition of the fallen race, and it will be found that all were implied in, and are accounted for by, that transaction in Eden, when man voluntarily separated himself from God and became associated with the nature, and in one sense with the destiny of the tempter. But, granting all this, a

question of great moment has been put touching this death now linked up with the nature of man. In the progress of science discoveries were made which gave opportunity to those who are ever on the watch to find a joint in the harness of truth: it was found that, before the days of Adam in Eden, whole races of animals, some of them high in organization, had lived their day and then passed away—had, in short, died. But, it was asked, does not the Bible pledge itself to something very different? Does it not account for all death by tracing it to Adam's sin? These questions still continue to be put, and now not by gainsayers only, but by seekers after truth likewise; and they thus demand a full answer.

The general geological facts which bear on this subject are thus graphically stated by Mr. Hugh Miller:—"This early exhibition of tooth, and spine, and sting—of weapons constructed alike to cut and to

Fig. 63.

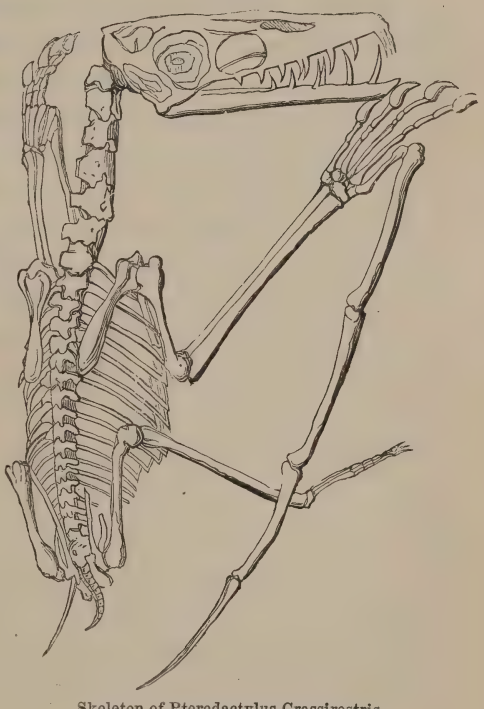


Plesiosaurus Hawkinsii.—*Owen.*

pierce—to unite two of the most indispensable requirements of the modern armourer—a keen edge to a strong back—nay, stranger still, the examples furnished in this primeval time, of weapons formed not only to kill, but also to torture—must be altogether at variance with the preconceived opinions of those who hold that, until man appeared in creation, and darkened its sympathetic face with the stain of moral

guilt, the reign of violence and outrage did not begin, and that there was no death among the inferior creatures, and no suffering." If the reader will glance at any of the tables given above, in which the succession of life on the pre-adamic earth is indicated, it will be noticed that traces of reptiles have been found at a place so low down in the fossiliferous rocks as the Devonian, or Old Red Sandstone. In the diagram copied from Owen, the *Enaliosauria*, or sea-lizards, are seen to have their largest development in the Lias and Oolite, and to reach into the Trias below and to the Chalk above. Forms of crocodilian life had their distribution from the Lias up to the top of the Tertiary. Traces of licertian life occur in the Devonian, in the Permian, Trias, Chalk, and have their chief development in the Pleiocene tertiary. Serpents, we have already seen, run through the whole Tertiary group. The teeth of some of these predatory reptiles, shown with the bones of the head in figs. 63, 64, indicate the formidable character of the creatures to the other forms of life amidst which they lived. The same facts are seen in connection with the flying lizards, which range from the Lower lias to the Middle chalk.

Fig. 64.



Skeleton of Pterodactylus Crassirostris.

The Pterodactyles were believed by Cuvier to have lived on insects; "but," remarks Buckland, "the head and teeth of two species are so much larger and stronger than is necessary for the capture of insects, that the larger species of them may possibly have fed on fishes, darting on them from the air, after the manner of sea-swallows and solan geese." The same author, alluding to the Icthyosaurus, says—"Its enormous eye was an optical instrument of varied and prodigious power, enabling the Icthyosaurus to descry its prey at great or little distances, in the obscurity of night, and in the depths of the sea."

If, again, we look at the pre-adamic mammals, which lived as do the lions, tigers, and hyænas of our time, the conviction will be forced on us that the ages before Adam must have witnessed death in many of

its most revolting forms—not death instantaneous only, but the process of dying lengthened out by the gradual torture of the prey, as may be seen in the case of the cat when it has captured a mouse. The remains of *Carnivora*, or flesh-eaters, met with in the well-known bone caves, &c., tell the tale of the existence of animals which preyed on each other—the tale of death in its most hideous forms among the lower animals—death by violence. This conclusion is arrived at by a process of induction which cannot be called in question. "Every organized being," said Cuvier, "forms a whole, a single circumscribed system, the parts of which mutually correspond and concur to the same definitive action by a reciprocal reaction. None of these parts can change without the others also changing; and consequently each part, taken separately, indicates and gives all the others." Cuvier took the lion (*Felis leo*) as the type of a carnivorous mammal, and, after much study and much and varied comparison of the lion with other *Carnivora*, he came to the conclusion that the form of the tooth alone is sufficient to enable the anatomist to determine the place of the animal to which it belonged, even though no other parts of its bony structure should be found. Professor Owen has carried this principle much farther, and is in the habit of determining the position of animals in the zoological scale from other mere fragments of the osseous skeleton. Guided, then, by this principle, anatomists have shown that it is beyond doubt that many life-destroying animals existed in pre-adamic times. I have given this prominence to these facts because the present state of science demands their recognition. And if those who have received willingly the Bible as an infallible record do not look at such facts, and ascertain what their relation is to the Bible, if they have any, others who may be actuated by motives of enmity to revealed truth will be sure to do so. Besides, the greater the prominence that can be given to alleged antagonistic facts, the brighter will the testimony to the truth become, when the point of harmony is broadly indicated.

What are the scriptural testimonies on this important subject? Do these shut us up to the conclusion that all death is the result of man's sin? The chief passages of Scripture, in addition to those already quoted, bearing on this are these:—"Whosoever committeth sin transgresseth also the law; for sin is the transgression of the law" (1 John iii. 4); "The wages of sin is death" (Rom. vi. 23); "Wherefore, as by one man sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned" (Rom. v. 12); "When lust hath conceived, it bringeth forth sin; and sin, when it is finished,

bringeth forth death" (James i. 15); "By one man's offence death reigned" (Rom. v. 17); He "that had the power of death, that is, the devil" (Heb. ii. 14); "By man came death. . . . . In Adam all die" (1 Cor. xv. 21, 22); "The creature was made subject to vanity. . . . . The whole creation groaneth and travaileth in pain together until now" (Rom. viii. 20, 22). There are many other passages bearing upon the nature and fruits of sin, which, however, may all be classed under those now quoted. With regard to them it must be at once admitted that, if they are looked at apart from the context in which they stand, they convey the popular impression on this subject. But many passages bearing on other matters might be adduced to show, that most erroneous views have been founded on the very words of Scripture, by their being interpreted without regard to the place which they occupy in the sacred volume. A glance at almost any extravagant position which has been taken up, in the history of heresy, on the alleged authority of Scripture, might illustrate this. As to the words now quoted we have—1, A definition of sin. It is "the transgression of the law"—the law of righteousness and of love, under which man was originally put, and which in its obligations continues ever and universally binding on the human race. 2, The curse was incurred when the law was transgressed. "In the day that thou eatest thereof thou shalt surely die;" "The wages of sin is death;" "Dust thou art, and unto dust thou shalt return;" "Death passed upon all men, for that all have sinned;" "Sin, when it is finished, bringeth forth death." It is implied in such expressions that when man became sinful and guilty, when his whole spiritual life was defiled—the understanding darkened, the heart corrupted, the feeling deadened, the desires set loose from the loving restraint of law—all the elements of death were realized in him. He became dead to the claims of his Maker, liable to a multitude of mental and bodily diseases, to the death of the body, and the more awful death of the soul—its eternal guiltiness and consequent exclusion from everlasting life. 3, Two persons are specially associated with this death mentioned in the passages quoted. These are, Satan and Man. The former is said to have the power of death, and the latter is represented as having received the curse through him. He "who hath the power of death, that is, the devil." "Hast thou eaten of the tree whereof I commanded thee that thou shouldest not eat? And the man said, The woman whom thou gavest to be with me, she gave me of the tree and I did eat. And the Lord said unto the woman, What is this that thou hast done? And the woman said, The serpent beguiled me and I did

eat" (Gen. iii. 12, 13). 4, Death to man comes by man's sin. "By man came death. . . . In Adam all die" are the words of the Holy Ghost spoken by Paul to the Church at Corinth (1 Cor. xv. 21, 22); but a little attention to the context sets them in an entirely different light than that in which they are seen when looked at as they are now quoted. They form part of an argument in which the resurrection of the dead is brought into the sphere of man's hope in virtue of the rising again of the Lord Jesus Christ. "Christ," says the apostle, "is risen from the dead, and become the first fruits of them that slept." As if he had said to the Christian Jews at Corinth, When your fathers presented the first fruits to the priesthood in tabernacle and temple, those ears of ripened grain told this tale above all others, that the harvest was near at hand, that in the valleys and on the sunny slopes in the lands of Israel and of Judah there were waving fields which must soon be reaped. So is it here: Jesus Christ is risen, and that rising again of Him who is the Prince of life is to you both the proof of the truth of the resurrection of the body, and to you the pledge that ye too shall rise again. There is hope for you then both as to soul and body—"This corruptible shall put on incorruption, this mortal shall put on immortality." "For since by man came death"—but to whom? even to man, not to angels, not to lower creatures, but to man, born immortal, and in the bright image even of the Holy One Himself—"even so by man came also the resurrection of the dead." But by what man? By the man Christ Jesus, the eternal Son of the everlasting Father, who took on him our nature, became bone of our bone, and flesh of our flesh, by Him cometh this "resurrection from the dead." Yes, "for as in Adam all die"—all who are in Adam, his seed then—"so in Christ shall all be made alive"—all who are in Christ shall be raised up, all his seed shall have part in the resurrection unto eternal life. The contrast is between Christ and Adam, and between the fruits of the obedience of Christ and the fruits of the disobedience of Adam. The question of death in regard to the lower animals, and whether it came upon them for the first time in consequence of the sin of Adam, is not even in the remotest or the most indirect way alluded to.

The same line of remark may be applied to the yet more direct statements in Romans, chap. v. The apostle having referred to the sinner's justification by faith, traces its fruits, from peace with God up through a chain of Christian graces to that link of hope which binds the heart of the saved man, even while on the earth, to him who is on the throne of grace in the heavens, says to the Roman Christians, The explanation

of all this is to be found in the fact, on which we should ever fall back, even that "when we were yet without strength, in due time Christ died for the ungodly." The simple mention of this leads him to dwell on the rich blessings implied as being for them who believe. If, he argues, such gifts were bestowed upon us when we were weak, without strength, ungodly, enemies, what may we not count on now that we are friends of this blessing-bestowing, gracious God. Our Lord Jesus Christ, he continues, is here the centre of this system of blessing: by him we have now received the atonement. "Wherefore as by one man sin entered into the world"—that world, and no other in this place, which he came to redeem—"and death"—to this same world—"by sin; and so death passed upon all men, for that all have sinned." It passed on the sinning ones in the world; not upon the lower animals, for they have no standing here, but on man—Adam's seed again, the human race. This is most distinctly declared here, and nothing but this; and to make the whole subject yet even more clear, the apostle continues his argument into the heart of the blessings purchased for him by Christ, which he shows not only make up for what had been lost in Adam, but which actually triumph over the effects of his sin. "Grace," he says, "reigns through righteousness unto eternal life by Jesus Christ our Lord." We thus conclude that, as in the other passages, so here there is not the slightest reference to any connection between man's sin and death to the lower animals. But had that sin no bearing on them? Is it not asserted in Romans viii. that such was the case, when we are told of the creature being made subject to vanity, and of the whole creation, or every creature, groaning and travailing in pain together until now? These words have suffered as much as the other from being isolated from the context, and made the subject of countless fanciful interpretations. Lying between the statements of the soul's full recognition of the fatherhood of God in verse 15, and of the sovereign foreknowledge of God in verse 29, we meet with direct references to that discipline which characterizes the Father's ways with his wilful children. Sufferings, sorrows, trials abound, but these are not in anger. They are only in love. And so the apostle hastens to bring out the blessed truth in verse 28—"We know that all things work together for good to them that love God." But before he reaches this, his view expands. The Spirit of God gives him a direct glimpse of a suffering world as well as of a suffering soul, and the fruits of this glimpse are a view of the influence of the carnal mind, in a sphere out of and beyond itself, on the one hand, and, on the other, the hope of blessing to that which

now suffers in a certain sense through the existence of the carnal mind in the world—"The creature itself also shall be delivered from the bondage of corruption into the glorious liberty of the sons of God." And this promise to the creature tallies with the whole scope of the Word of God when its future is referred to. But whence the "vanity" and the bondage? The answer must be, from the sin of man. *The references here are not to death, but to suffering.* The creature does suffer through man's sin. Instead of finding in man a friend, a protector, an unceasing benefactor, as they would have found had he not sinned, they meet with a tyrant master. Their suffering caught the eye and sympathy of Paul, as they will ever do of all generous natures. Their groans were heard in his heart, but entering fully into the prospects as to man, opened up to him by the Spirit of God, he anticipated blessing for the creature in the measure in which man was to be blessed. In part this is realized in the ministration of grace day by day. When a man gets good for himself, the very lower animals put under him come in for a share—"The righteous man regardeth the life of his beast." The Bible testimony on the subject now before us thus is:—Man's sin brought death to the whole human race into the world. The death of the lower animals is to be looked at from another point of view altogether. The key to the difficulty is, moreover, to be found in the Word of God.

Many vain attempts have been made to bring about a manifest harmony between science and Christianity on this subject, from the erroneous impression that they were directly antagonistic to each other. Some have broached the theory that man's sin had retrospective bearings; and have alleged that, because man was to sin, the creatures that lived before he appeared were made subject to death! Such an hypothesis, even when illustrated with all the ability of Dr. Hitchcock, does not meet the case, and thus need not be farther characterized. Others have given imagination full scope in devising a scheme of reconcilement, and have made the notable discovery that the lower animals were made subject to death, because of the sins of the angels that kept not their first estate. This is as little worthy of attention as the former. Some, with deeper penetration, have tried to make out that "death was ever a universal law, from the operation of which, in the present constitution of things, no organized being can be exempt;" but this does not solve the difficulty, because the Bible plainly declares, as has been seen, "that all death to man is the result of man's sin." If, however, you make death, such as the body is now subject to, a law of organized being in all its conditions

in all time, you do not accept the Bible testimony—you put the human organism, even of man unfallen, under a law which we know was co-extensive with the lower animals. Others, again, have sought for the solution in the hypothesis, that the death spoken of as the wages of sin was wholly spiritual. The drawback, if not the positive danger of this view, will appear when it is remembered that the atonement of Christ was made in the body, which had never suffered pollution from sin, but suffered as the body of Him who died to rescue body and soul ultimately from the power of sin. This is in part realized in our coming under the power of a higher life; and the resurrection of the just shall be the full triumph of it, while the resurrection of the unjust will be the separation of the raised body to the eternal consequences of sin. To limit the effects of sin to what is purely spiritual, is perilous in the extreme. Is there, then, a ground of harmony which will both grant all that the Scripture demands, and turn aside every weapon formed against it? I think so. There may have been a law of change of some kind associated with the unfallen man. We are not told what it was; but the strong statements of Scripture, on the accursed character of all death to man, leads us to believe that it could not have been that of the death which the lower animals died. But the Spirit of God recognizes death as a law under which the lower animals were. "They are the beasts that perish." We find man made in the image of God—man knowing not death as the beasts did, man with a body set aside to a higher destiny—degraded to the level of the beasts that perish, because of his sin. Here we have the degradation of the body of man because of man's sin; and this, we are confident, is all that is required in order to turn away the shafts of unbelief from the Bible narrative.

The views given above of the influence of Adam's sin on his own spiritual nature, and on that of his descendants, can, of course, be associated with its influence on his body, only as it is seen to be the cause of physical degradation to him whose body was better and higher than that of the beasts because of its connection with the divine inbreathed life whose destinies it was to follow. The unfallen soul secured the continued and unaltering dignity of the body in which it dwelt, in kingly way as in a palace; and even yet the power of the spiritual nature over the physical goes far to suggest how spirit might have exalted it and have given to matter its own permanency. Moses, when in direct communion with God, could fast forty days; Elijah was taken up in the body into heaven; so was it with Christ also.

Before we pass from the third chapter, there are three other topics to

be considered—The first clothing of the human pair, the name of Adam's wife, and the expulsion from the garden of Eden :—

1. *The First Clothing of Adam and Eve.*—In one of those brief but remarkably suggestive sentences for which the Scriptures are distinguished above all other books, the sacred historian pictures the condition of perfect purity in which man had been formed—"They were both naked, the man and the woman, and were not ashamed" (chap. ii. 25). When, however, the fatal step was taken, their relation is indicated thus: —"And the eyes of them both were opened; and they knew that they

Fig. 65.

Branch of the Fig-tree (*Ficus carica*).

were naked, and they sewed fig-leaves together, and made themselves aprons" (chap. iii. 7). Before their expulsion from the blissful bowers of Eden, the Lord in his compassion directs them to materials for garments much more suitable for life in the wilderness, on which they were to enter, than were the frail zones of fig-leaves. The fig-tree is often mentioned in Holy Writ, and in most instances it is introduced along

with matters which claim for the references a special notice as they occur. Though several trees of this family have been specified as likely to have supplied the leaves for the first garments, it appears to me, beyond a doubt, that the leaves of the common Fig (*Ficus carica*)—the fig of commerce, with which all are familiar—were those used by our first parents after their fall. Like many other references to the objects of the natural world, this made to the fig-tree has given rise to one suggestion and another, as to the particular tree, from inattention to the way in which the original word is used. Here it is said "they sewed fig (*teenah*) leaves together." The tree was one well known to every Israelite. Moses himself described Canaan, even before the people of Israel took possession of it, as a land of fig-trees:—"For the Lord thy God bringeth thee into a good land; a land of brooks of water, of fountains, and depths that spring out of valleys and hills; a land of wheat, and barley, and vines, and fig-trees (*teenah*), and pomegranates; a land of oil-olive and honey" (Deut. viii. 7, 8). And thus associating it with the wheat, the barley and the vine, he indicates its value as an article of food—a fact which itself is sufficient to lead us to the common fig. In Numbers xiii. 23, we read that, when the spies came to Eschol, "they cut down from thence a branch with one cluster of grapes, and they bare it between two upon a staff, and they brought of the pomegranates and of the figs." The same word is used here, and, indeed, throughout the Hebrew Scriptures, in such a way as to suggest to us that the fig of commerce is the species, whose leaves were formed into zones by Adam and Eve.

In systematic Botany the common fig-tree is associated with the Bread-fruit tribe under the *Urtiaceæ*, or Nettle family—the nettle being the type of a family which includes the bread-fruit, hemp, elm, and mulberry tribes, &c. Most of the species of fig-trees arrest the attention of the traveller in the lands in which they are indigenous; some of them for the wide-spread shadows which they cast in sultry climes, some for their fruit, some for peculiarities in modes of growth, and others for their supply of well-known articles of commerce. At the head of them may be reckoned the celebrated Banyan-tree (*Ficus Indicus*). This was assumed by Milton to have been the tree that supplied the material for the "aprons."

> "So counselled he, and both together went
> Into the thickest wood; there soon they chose
> The fig-tree, not that kind for fruit renowned,
> But such as, at this day, to Indians known,

In Malabar or Deccan spreads her arms,
Branching so broad and long, that in the ground
The bended twigs take root, and daughters grow
About the mother tree, a pillar'd shade
High overarch'd, and echoing walks between:
There oft the Indian herdsman, shunning heat,
Shelters in cool, and tends his pasturing herds
At loop-holes cut through thickest shade; these leaves
They gathered, broad as Amazonian targe;
And, with what skill they had, together sew'd,
To gird their waist."—*Paradise Lost*, b. ix.

The mode of growth referred to by the poet has been often described, and need not be dwelt on here. When the main shoot of the Banyan-tree has attained to strength, it throws out numerous branches in all directions. These, again, produce pendulous shoots, in the same way, to compare great things with small, as the common strawberry (*Fragaria vesca*) does. On reaching the earth they take root, and each one again becomes a trunk, which hastens to help in the work of propagation, by performing the same functions as the parent stem. But the poet was in error in believing that this tree furnished the leaves "to gird their waist," which, indeed, are not as he describes them, "broad as Amazonian targe." Another species is the India-rubber tree (*Ficus elastica*), noted for its caoutchouc juice. To this genus also belongs the Bo or Pippul tree (*Ficus religiosa*), held sacred by the Hindoos and some neighbouring tribes, and generally planted in the neighbourhood of their holy places.

Fig. 66.

Flower receptacle of the Fig.

The natural history and economical use of the common fig are full of interest, and will be considered in detail when we come to passages in which the various features are suggested. Let us notice here a peculiarity in its organs of reproduction. The form of its leaf will be seen by referring to the cut here given. If a number of them be taken and their stalks plaited into each other, the deep scollops in the leaf are lost sight of, and a pretty good covering is formed. Such might be the zones plaited, or sewed, in Eden. The fruit of the fig-tree is pear-shaped, juicy, and, even before being dried for use, forms a pleasant and somewhat luscious food. The flower is concealed inside of this pear-shaped mass, which is hollow. This arrangement is represented in the accompanying section. The fig-tree is a native of the temperate and tropical climes of both

hemispheres. It flourishes luxuriantly in the countries bordering on the Mediterranean, both on the European and African sides. From these the figs of commerce are mainly brought. In the lands in which it may now almost be reckoned indigenous, its leaves attain to a large size—larger even than they are ever seen in the hot-houses of British gardens. The common fig, however, comes originally from Bible lands. With other eastern fruit trees, it was introduced into the countries of the south of Europe by the Phœnicians, several hundred years before the Christian era. With the leaf, then, of this tree our first parents made for themselves the first garments here referred to. "To hide their outward nakedness," piously remarks Andrew Fuller, "they betook themselves to the 'leaves of the garden.' This was to cover, not to cure. And to what else is all the labour of sinners devoted? Is it not to conceal the bad, and to appear what they are not, that they are continually studying and contriving? And being able to impose upon one another, they with little difficulty impose upon themselves, 'trusting in themselves that they are righteous, and despising others.'"

The garments made from the leaves of the fig-tree are exchanged, by the special interference and arrangement of God, for those mentioned in ver. 21:—"Unto Adam also and his wife did the Lord God make coats of skins, and clothed them." The clothing made of the skins of beasts was prepared before man left Eden. It was while he yet continued in the very place, which had cast its beauty around him in innocence, and had witnessed his departure from God, that his Creator directed him to the coats of skin. Here then was death—the destruction of animal life in Eden itself. Many attempts have been made to interpret Scripture, so as to make it harmonize with the fancies of men regarding the state of innocence. But the written words remain, and the facts suggested by them come to afford a striking testimony to the value of interpretations of the word of God, which go, in a plain and natural way, to show that revealed truth finds, at one point and another, strong corroboration in the discoveries of science. Many passages might be quoted from popular commentaries, and popular religious literature, in which the coats of skins are associated with the life of man after he was driven out of the garden, as if no violence of any kind could have entered its blissful borders, and no drop of animal blood could have fallen on its fruitful soil. This verse demolishes all such fancies, and indicates, very distinctly, that the lower animals were then under the same law of life as they are now. If *in the garden* they might be killed for any purpose, there could be nothing out of harmony with it in the

birds of prey feeding upon other birds, in the lion or tiger devouring the sheep, or in the thrush picking up the slug, as it crawled forth amidst the dew of morning from its shady hiding-place. Yea, that testimony to the wisdom of God which is found in the correlation between structure and functions, demands the recognition of such laws of life and death among the lower animals even in Eden. Milton, in those peculiarly beautiful lines which give his impressions of the meaning of this verse, appears to have felt this, as the words "or slain" imply. He, however, adds a curious alternative. Might not the skins have been cast, as is the case with the snake when it sloughs? Might not in this case there be meat got out of the devourer, by Adam and Eve being clad in the serpent's slough? The poet's fancy is really less extravagant than many of the interpretations which have been put on this passage:—

"Then pitying how they stood
Before him, naked to the air, that now
Must suffer change, disdained not to begin
Henceforth the form of servant to assume.
As when he washed his servant's feet, so now,
As father of his family, he clad
Their nakedness with skins of beasts, or slain,
Or as the snake, with youthful coat repaid;
And thought not much to clothe his enemies:
Nor he their outward only with the skins
Of beasts, but inward nakedness, much more
Opprobrious, with his robe of righteousness
Arraying, covered from his Father's sight."—*Paradise Lost*, b. x.

In the direction of the last suggestion of the poet, a more satisfactory explanation of the skins provided by God for these garments has been sought. They were, it is alleged, the skins of beasts slain in order to sacrifice. This, however, is like the other views, only a guess. But if hypothesis is admissible here at all, as I think it is, might not a much more reliable one be formed—one much more complete and suitable to the circumstances? Whatever may have been the occasion of slaying the animals whose skins were given to our first parents for clothing, it was one ordered by God himself. This is clearly stated in this verse. I have already called the reader's attention to the fact, that we are not entitled to hold that the grant given of animal food to man after the flood implied that the antediluvians were all vegetarians. There are indeed many strong reasons for holding an opposite opinion. Here we have the skins of slain beasts; most likely the skins of herbivorous

animals. When we are introduced to the manhood occupations of the sons of Adam, we are informed that Abel was "a keeper of sheep." Why were the sheep kept? for what purpose were they used? "Cain was a tiller of the ground." Why? That he might provide the bread of which man was to eat. This answer is not questioned by any one. Why, then, should it be held unwarrantable to conclude, that Abel kept the sheep for purposes of food as well as of clothing? The sacrifices are pointed to as an answer. It is said, that he might express his belief in the promise of a coming deliverer—even of that "Lamb of God which taketh away the sins of the world." That was no doubt true. But Cain offered also unto the Lord, and that in a way afterwards demanded under positive precept by God himself. His offering was not received, because he himself was not personally accepted by God. His spiritual nature was as yet wholly under sin. He had not accepted righteousness through another, but claimed to be good in himself, and demanded the acceptance of his sacrifice on the score of his own works. God dealt with him on this ground. As if he had said to him, You appeal to your acts, to your offerings, but something more is needed, even that good thing which Abel has chosen. Without this you must fall short of what is required of you. But be it as you wish. "If thou doest well, shalt thou not be accepted? and if thou doest not well, sin lieth at thy door." The principles so clearly enunciated by our Lord in the parable of the Pharisee and the publican (Luke xviii.) were brought out even in the household of Adam.

If we look at the offering of the firstlings and of the first-fruits in the light of the usages of an aftertime in the history of the Church, I do not see how the conclusion can be avoided that the animals kept by Abel were designed for food as well as for clothing. In aftertimes, when the offerings were all regulated by written laws, the meaning of the "first-fruits" was an expression of thankfulness on the part of the worshipper to God for his goodness in blessing his labour, and an acknowledgment of God's sovereignty over the land. But it was more than this. It was the acknowledgment also that the fruitful fields of which that one sheaf was a part, were reserved for the use of the worshipper and his family. The "firstlings of the flock" when presented to the priest told the same tale, but went a step farther. They were the recognition on the part of the offerer, for himself and his household, of the grace of God in the promise of the Messiah "who was to be cut off, but not for his own sins." Then, let us notice how thoroughly this interpretation fits into the largest views of the grace of God in a

Redeemer with which the Old Testament church was familiar. In the sacrificial system of worship arrangements were made for the sinner's acknowledgment of pardon through a substitute, on the one hand, and of his acceptance of that, on the other hand—of Christ as for him, and of Christ as his life. The sacrifice was not only slain and offered, but parts of it were eaten by a representative priesthood, and, in the case of the paschal lamb, the whole congregation of Israel were to eat of it. So we can see the propriety of Abel both offering and eating. There would thus be, even then, by those outward acts the testimony of the worshipper that he believed in the Promised One, and that he took him as the ground of his pardon, as his life, and as his righteousness, in shedding the blood of the lamb, in feeding upon its flesh, and in clothing himself with its skin. The last passed away as the Church found itself in the midst of circumstances in which the fruits of human skill, as put forth in the arts, were seen in providing garments yet more suitable for the clime and for health. The "fine twined linen" took the place of the skins in the clothing of the representative priesthood, and this still continues as a symbol—we have "the linen clean and white, which is the righteousness of the saints.' But the ancient materials of clothing were not wholly put away or dissociated from the religious impressions of the people. Goats' hair, rams' skins, and the like, had a place assigned to them in the furniture of the tabernacle. "And they came every one whose heart stirred him up, and every one whom his spirit made willing, and they brought the Lord's offering to the work of the tabernacle of the congregation, and for all his service, and for the holy garments. And they came, both men and women; as many as were willing-hearted . . . . with whom was found blue, and purple, and scarlet, and fine linen, and goats' hair, and red skins of rams, and badgers' skins, brought them" (Exod. xxxv. 21–23). Thus, looking at verse 21, and taking the act of God referred to in it as not only pointing out the divine mercy, in providing for the fallen pair garments suited to the circumstances into the midst of which they were about to be sent, but as implying the divine institution of sacrifices as channels of religious worship and life, it seems most likely that the animals slain were used for bodily food also. This conviction is strengthened by the work of Abel, who was "a keeper of sheep."

2. *The Name of Adam's Wife.*—"Adam called his wife's name Eve, because she was the mother of all living" (iii. 20). In chapter second we are informed that "God caused a deep sleep to fall upon Adam, and he slept; and he took one of his ribs, and closed up the

flesh thereof; and the rib which the Lord God had taken from man, made he a woman, and brought her unto the man. And Adam said, This is now bone of my bones, and flesh of my flesh; she shall be called Woman (*Isha*), because she was taken out of Man (*Ish*)." In no way could the co-equality and complete identity of interest between man and woman, and the sacredness of the marriage tie, be so simply, and yet so powerfully indicated as by the statement of this etymological connection between the names of the man and woman. There are moral and spiritual ties suggested between the two in the very words *Ish* and *Isha*, which distinguish the relation here from that implied in the names Adam (formed from the ground) and Eve (mother of all living). Thus our Lord's reference to the holy relationship, and to the strong tie thereby formed—the tie of an absorbing, predominating affection. "Therefore shall a man leave his father and his mother, and shall cleave unto his wife, and they shall be one flesh." Thus, too, the fitness of the tie to illustrate the mysterious oneness between Christ and his church. "Have ye not read," asked Jesus at a time when domestic morality was not what it should have been, and when the sanctity of the marriage tie was set at nought by divorces for most trifling reasons, "that he which made them at the beginning made them male and female" (Matt. xix. 4–9). "Christ," says the Spirit of God by Paul, "loved the church, and gave himself for it. . . . . We are members of his body, of his flesh, and of his bones. For this cause shall a man leave his father and his mother, and shall be joined unto his wife, and they two shall be one flesh. This is a great mystery; but I speak concerning Christ and his church" (Eph. v. 25, 30–32). "The man called the woman Eve"—the life-giving one, the mother of all living. From this one pair were all the nations of the earth to spring. "God that made the world and all things therein . . . . hath made of one blood all nations of men for to dwell on all the face of the earth" (Acts xvii. 24, 26). The one blood relationship, which constitutes the one great brotherhood of the human race, was formed in Eden. When sons were born in the likeness and after the image of the first pair, the varieties of disposition soon tended to varieties in tribal or family standing, but still the antediluvian nations were of the one blood. The perpetuation of this, and consequently the utter groundlessness of all assertions as to a plurality of races, or, more properly, a plurality of original sources whence the different races of men are held to have sprung, will be considered when we come to look at the division of the earth among the sons of Noah.

3. *The Expulsion from Paradise.*—The remarks made already on the tree of life make it unnecessary to examine verse 22 minutely. It is clear from the words of God used here, that whatever the tree of life may have been, it retained its virtue after the fall—a virtue which made it the minister of life to the human soul. "And the Lord God said, Behold the man is become as one of us to know good and evil; and now lest he put forth his hand and take also of the tree of life, and eat, and live forever: therefore the Lord God sent him forth from the garden of Eden, to till the ground from whence he was taken. So he drove out the man: and he placed at the east of the garden of Eden cherubims and a flaming sword which turned every way, to keep the way of the tree of life" (ver. 23, 24). In what way this power to communicate eternal life was continued to this tree, we can no more understand than we can the mystery of the formation of the woman from the rib of the man. We know the fact: this should suffice to stop all curiosity as to the matter, when the mode of it is designedly concealed.

The words in verse 23—"to till the ground from whence he was taken"—assume, as we have seen, the twofold expression of agricultural and shepherd life in the house of Adam. Cain followed the chief occupation of his father—"he tilled the ground." Abel took to gathering a flock out of the herb-eating animals around him—"he was a keeper of sheep." Skins were to be provided for clothing, victims for sacrifice, and, as is likely, animals were to be reared for food. Thus flocks needed to be kept. The presence of the ravenous beasts might tend to their destruction, or might drive them for safety into positions beyond the reach of man, and thus man's aid must be given them, his protection cast around them. The strong corroborative evidence from other parts of Scripture which has been adduced, warrants the conclusion that the rearing of sheep had these two aspects of use mixed up with it, viz., the religious and the economical. It is, besides, more than likely that the descendants of Cain soon threw off even the outward profession of devotion to God. There came at least to be a well-defined mark between the church and the world—the children of God and the children of men (vi. 12). It is thus improbable that flocks would be reared by the Cainites for the purposes of sacrifice. Yet we soon find an advance made in shepherd life; for not only were sheep cared for, but oxen also. We are told that Jabal (literally Increase) "was the father of such as dwell in tents; and of those who have cattle" (iv. 20). This form of expression, it is worth noting, is still prevalent

in the East. "We shall return by Bŭssa," says one familiar with these lands, "and thus take a look into the north-west corner of this great plain. It abounds in antiquities, beyond most parts even of this land of ruins. We shall find the explanation of these old quarries on the hill above us. This daughter of Jabal says those nearest remains are called Shwoizerîyeh—a very hard word, and apparently foreign. Why call this curly-headed Bedawy by that name? The Bible says that Jabal was the father of such as dwell in tents, and of such as have cattle. Now she dwells in one of those goat-hair tents on the mountain side, and she is tending this drove of poverty-smitten cattle. This Biblical form of expression is very common. Any one who should now invent tents, or the custom of living in tents, would be called the father not only of tents, but also of tent-dwelling; indeed, the Arabs call a person distinguished for *any* peculiarity the father of it. Thus, a man with an uncommon beard is named *abu dukn*—father of a beard."

Have the sheep which Abel tended representatives of their original stock still in the world? The question is one of a class which may often have to be put, touching the animals referred to in the book of Genesis especially. When we come to the zoology of other books of Scripture, we have helps to the identification of genera, and even species, which could not be looked for here. Generally it may be averred, we have to look to Western Asia for the original types of most of our domestic animals. But it should never be forgotten, that the original types of the various domestic animals may have perished, and yet have left their distinctive features, not in any one variety, but scattered over many. Climatal influences, food, the physical character of the country, and the various appliances which the art of man can bring to bear on different races of animals, have all a tendency to modify not form only, but structure also. The dignity of head of the race has been specially claimed for one of two species. One of them, the Argali, Plate V., Fig. 1 (*Ovis Ammon* or *Thibet sheep*—Cuv.; *Ovis Argali* or *Argali sheep*—Pall.), inhabits the mountainous districts of Central Asia. The Asiatic varieties of the Argali which, without good reason, have been characterized by some naturalists as distinct species, are the Kamtschatkan Argali (*Ovis niviesla*—Eschol.), the Caucasian Argali (*O. cylindricornis*—Blyth), and the Armenian Argali (*O. Gmelinii*—Blyth). America supplies a species (variety?) bearing a very close resemblance to the Asiatic type. It is found in the Rocky Mountains, and is associated on Plate V., Fig. 2, with the Argali for comparison.

But whatever weight there may be in the present wild condition, habits, and wide geographical distribution of the Argali as to its claims to be regarded the original parent of the innumerable varieties of domesticated sheep, there are structural peculiarities about it which are fatal to these. Both male and female have horns, "which in the female are smaller, and at their base set longitudinally on the skull (not with the broader surface transverse, as is usual in the sheep); in the male they are particularly thick and large." They are covered with rough long hair, having at its roots an undergrowth of spiral-shaped wool. The well-marked difference in the shape of the horns thus make it unlikely that the Argali was the original parent of domestic sheep.

Fig. 67.

Mouflon (*Ovis muscimon*).

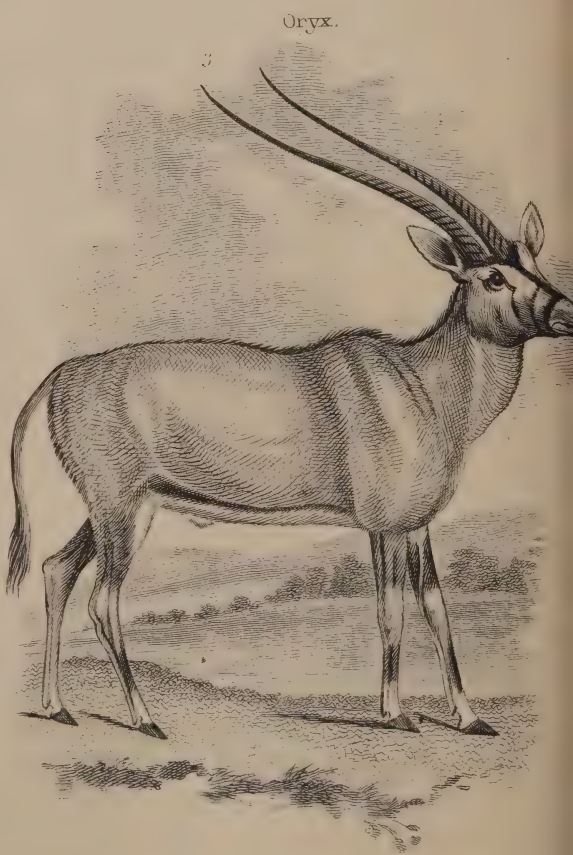
The other species, held by many to be the parent of domesticated sheep, is the well-known Corsican Mouflon (the *Ovis musci-mon* of Linnæus and Pallas). It is found among the domestic animals of the islands of the Mediterranean, especially in Corsica, Sardinia, and Cyprus, and is to be met with in the same condition in the hills of Asia Minor, and on the plains of Persia. It occurs in a wild state in the Himalaya range of mountains. The Corsican Mouflon interbreeds with varieties of the common sheep (*Ovis aries*).

In verse 24 another reference is made to the East. The expression, "The Lord God sent him forth from the garden" (ver. 23) is repeated in a much more emphatic form—"So he drove out the man: and he placed at the east of the garden of Eden cherubims, and a flaming sword which turned every way, to keep the way of the tree of life." In chapter ii. we have Eden and the garden in the east of it; now we have the garden, and the cherubim, and flaming sword on the east of it. The geographical references in those early times are of the most scanty kind; but looking at this intimation in the light of our sketch of the supposed land of Eden, it would appear that the peopling of the antediluvian earth must have been in the directions first occupied afterwards by the

O. Ammon. — *Thibet Sheep.*

GEN. IV. 2.

O. Montana. — *Rocky Mountain Sheep.*



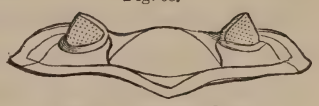
O. leucoryx — *Leucoryx.*

ISA. LX. 7:

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON

sons of Noah. Would they find helps to progress in civilization, in industrial pursuits, and in art and science, in the remains of the works of those whose wickedness had become so great that "the Lord repented he had made man on the earth?" Most likely; for if the flood did not uproot the olive bushes, and did not obliterate the courses in which the rivers of Eden had hastened on their way to the seas, is it probable that all the great material undertakings of "the giants, the mighty men which were of old men of renown" (vi. 4), would be so dealt with as not to leave a trace behind them? If there be any weight in this query, those who have given themselves to the study of Egyptian archæology are bound to take it into account when they make such demands on us, as they do, to recognize much more protracted periods for the development of art, than those assigned to it in Scripture, as lying between the date of the flood and the historical times of the land of the Pharaohs.

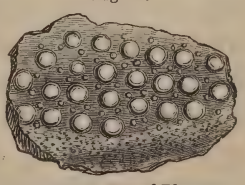
Fig. 68.



Head of Phacops caudatus.

This statement regarding the cherubim and the sword of flame is full of varied interest. It forms a link between the religious history of two periods of the church of the living God on the earth. It turns up claiming the notice of the student of the Bible, even as the remains of former phases of life embedded in the rocks claim the study of the geologist, affording a key not to their own character only, but to the climatology and even the physical features of the earth, at the time they spent life's brief span. By comparing the scanty materials left for a history of those primeval worlds with each other, much more light can be obtained on it than at first sight might seem possible. The whole contour of those Silurian graptolites as distinctly tells of the existence of deep seas, as the Virgularia of to-day does. The facetted eye of the Trilobite (*Phacops caudatus*, see page 15), with its beautiful optical adaptations to its sphere of life, leads us to conditions of light and atmosphere and ocean in ages, before the idea of which even imagination cowers, corresponding to those amidst which the crustaceans of our own time live and breathe.

Fig. 69.



Compound Eye of Phacops caudatus magnified.

So here; if we take this discovery of God's presence, and compare it with the manifestations of his holiness and grace made in after ages to the church, we may come to the conclusion, that the materials for the history of the divine provision for man's spiritual wants is not so

scanty as we before imagined. Have not many taken their impressions of this verse from the illustrations in the Bibles with which in childhood and youth they were familiar, rather than from the Bible itself? Most will remember during their whole life, the somewhat unartistic pictures of giant winged ones standing on massive walls, by great gates which guarded a place of beauty and brightness, gazing into a wilderness darkened by thunder-clouds out of whose gloomy bosoms the forked lightnings darted, or brandishing burning swords greater than Goliath's spear over the cowering pair first expelled from Eden. And thus a picture, above many suggestive of grace and fatherly love to the fallen ones, is turned into a hideous demonstration of wrath—wrath only. But if these coats of skin tell us anything at all when they are spoken of as made by God for man, they tell us the simple but blessed story that "God is in Christ reconciling the world unto himself."

It would be out of place here to discuss any questions touching the nature of the cherubim. We take them as being the same as those represented in aftertimes above the mercy seat, and introduced to us in other portions of Scripture in connection with the ministrations of grace. True, they here guard the tree of life—they intimate to man that eternal life is no longer his in virtue of his own right and in a natural way—but they are also the symbols of a present God. The sword described was not in their hands. It was with them, and if looked at in the literal acceptation of the original word, it will suggest to us a brilliant sword-like light, darting out and returning on itself, as does the aurora seen in the northern skies in the bright nights of winter. In the words of Bishop Horne, "A devouring fire, turning, or rolling upon itself; as the cherubim, which Ezekiel saw, are said to have stood in the midst of a fire 'catching or infolding itself.' The expressions are equivalent, and correspond exactly. This body of fire (generally attended by, and subsisted in, a cloud) is styled 'the glory of God;' and always accompanied the appearance of the cherubim. The most ancient expositions left in the world, which are the two Jewish Targums, paraphrase the verse thus:—'And he thrust out the man, and caused the glory of his presence to dwell of old, at the east of the garden of Eden, above the two cherubim.' If such be the real import of the passage, and it relate only to the manifestation of the divine presence, by its well known symbol, above or between the cherubim, may we not fairly and reasonably conclude, that the design of such manifestation at the east of the garden of Eden, was the same as it was confessedly afterwards in the tabernacle and temple,

namely, to reveal the will of God for the conduct of his people; to accept the sacrifices offered to him; and favourably to regard the prefigurative atonement made by 'the sprinkling of blood, without which there was,' after the fall, 'no remission?' And all this was done 'to keep, or preserve, the way to the tree of life,' immortality being now the object of a new covenant, with other conditions. There were good reasons why our first parent should not be suffered, in the state to which he had reduced himself, to 'put forth his hand, and take and eat.' In the spirit of repentance and faith the delinquents were to wait, 'till one greater man should regain the blissful seat,' and 'open the kingdom of heaven to all believers;' himself the true tree of life in the Paradise of God."

From the beginning there seems to have been a visible evidence of the nearness of God to man. How else could they have thought to "hide themselves from the presence of the Lord God," amongst the leafy shades of Eden? When man was driven forth into the wilderness, the cherubim and the coruscant sword were the symbols of God's presence with him as the object of worship, in his character of a God of righteousness and of grace. They became the true *shekinah*, even as the pillar of cloud and of fire afterwards became the symbol of his special presence in his church. And this helps us to understand the description of Cain's act after the murder of his brother—"And Cain went out *from the presence of the Lord*, and dwelt in the land of Nod on the east of Eden" (iv. 16). He pushed his way further east still; and while Adam and the Sethites lingered in the neighbourhood of the presence of the Lord—the place of worship—the Cainites removed away from that which would ever remind them of guilt. Nod taken as a proper name by our translators, is properly only *flight;* the sense is thus, "And dwelt in the land of flight"—the country into which he had gone after his fratricidal act.

GENESIS IV.

THE statements of the preceding chapter made it necessary to consider most of the points of interest in this one in connection with them. In verse 17 we are told that "Cain knew his wife; and she conceived and bare Enoch: and he builded a city, and called the name of the city, after the name of his son, Enoch." This is the first reference to city-building in the Scriptures, and is on this account interesting. The nomadic shepherd life was not suited to the habits of Cain as one given to agriculture; and it might have been expected that in the land of his flight he would soon seek to rear permanent abodes for himself and his descendants. It was, moreover, in his seed that the industrial and even fine arts were to be first cultivated, and these required fixed dwellings for their development. The city was named Enoch, after his first-born. Much has been made of the marriage of Cain as a corroboration of the hypothesis of a plurality of races. The marriage with his own sister is held to be alien to what we know of God from other parts of Scripture. But here we can see good ground for the arrangement. The unity of the race as descended from one couple, and all the relations which the scheme of grace has to this were to be guarded, and the tie was a necessity in those early times. Strict laws were framed against it afterwards, because of the awful social evils which would have resulted. But here a multitude of circumstances would tend to neutralize these. The "one blood" relationship also, which is connected with so many of the highest interests of man, could only thus be secured. "One couple were therefore made the progenitors of the whole human family; all other considerations were deemed of minor importance compared with that momentous doctrine which twines a tie of brotherhood around all nations and all ages; a plurality of first couples would have prevented marriages which were later justly regarded with abomination, but it would have destroyed a fundamental truth, which is the germ of noble and social virtues, and which sheds brilliant rays of hope over the confusion of national strife and warfare."

Any attempt to fix, as has often been done, the site of the first city

of the Cainites must be vain. But may not the name at least help us to a not unprofitable lesson? The suggestive character of most Old Testament names is known to all. Link together, then, the three names of places to which most prominence has hitherto been given—namely, Eden, Nod, and Enoch—and associate with them the moral considerations with which they are connected, and even the uncertain topography of the Edenic region becomes fruitful of instruction. We have *Eden*, a name equivalent to a delightsome land—a land of outward beauty in itself, and fitted as an abode of rest for immortal man. It was furnished to supply all the wants of the body, while the soul was satisfied with the Creator. But next comes the land of flight—*Nod*—a region at a distance from the special presence of God—a barren land for the soul, how abundantly soever it might minister to the body. The district to which the Cainites went was thus as suggestive of spiritual condition as was Eden itself. Men had hastened thither to quiet the uneasy conscience. It was the place of flight truly from the idea of a personal, thinking, watchful God. The vanity of the endeavour need not to be characterized. The act has been repeated tens of thousands of times since then, and man goes on repeating it still. The troubled soul, burdened by a consciousness of guilt, too often hastens out from the presence of the Lord, as if distance from the place of blessing implied escape from the holy, and watchful eye of the great and eternal God Himself. Yet it was here that the city Enoch was built, and became the means of perpetuating an influential thought. Had the builder seen how deeply he had fallen when he gave a name to his child which contained under it the twofold idea—instruction in order to complete dedication? Let it be borne in mind that the "seventh from Adam" —he who prophesied "behold, the Lord cometh," and who "was translated that he should not see death"—bore this name. Cain appears to have felt that instruction was necessary, and he gave expression to his conviction in calling his child Enoch, or "taught." But as if still in the spirit of flight, as well as in the land of it, he did not associate the other element in the name with his child, but with a city: "he called the name of the city *Enoch*"—dedicated—"after the name of his son." All Scripture usage in the bestowal of names, and even in the use of words, points to this. Thus we have the same word used in the following passages, in one instance by Moses himself:—"Train (*enoch*) up a child in the way he should go, and when he is old he will not depart from it" (Prov. xxii. 6); "What man is there that hath built a new house, and hath not *dedicated* it, let him go and return to

his house, lest he die in battle, and another man dedicate it" (Deut. xx. 5). The word "dedicated," used in the sense of consecrated, is in both cases a part of the root-verb from which the name Enoch is derived. This view of the naming of the son of Cain, and of the consecration of the city, is not fanciful. It is a fair inference from the use of the name itself, and of the other names, Eden and Nod.

"And Lamech took unto him two wives: the name of the one was Adah, and the name of the other Zillah. And Adah bare Jabal: he was the father of such as dwell in tents, and of such as have cattle. And his brother's name was Jubal: he was the father of all such as handle the harp and organ. And Zillah, she also bare Tubal-cain, an instructer of every artificer in brass and iron: and the sister of Tubal-cain was Naamah. And Lamech said unto his wives, Adah and Zillah, hear my voice; ye wives of Lamech, hearken unto my speech: for I have slain a man to my wounding, and a young man to my hurt: if Cain shall be avenged seven-fold, truly Lamech seventy and seven-fold" (ver. 19–24).

The verses introduce us to new relationships, and to great advances in the arts of life. They supply a direct contradiction also to all those theories which demand a very lengthened period in primeval times for the development of the fruits of so-called "advanced civilization." The fact is, that the nearer we get to the origin of the human race, the farther removed are we from the savage state. Barbarism is degradation from the primitive type. The chief points to be noted here are:—

1. *The departure from the original Law of Marriage.*—We have seen that the names *Ish* and *Isha*, bestowed on Adam and Eve, implied such a provision in regard to wedlock as our Lord referred to in the words given above. But thus soon man forsook the arrangements of God, and followed his own desires. Polygamy was introduced. "Lamech took unto him two wives: the name of the one was Adah, and the name of the other Zillah." There is proof that this system did not, even amidst the wickedness of the times before the flood, become universal. It was not practised in the household of Noah. We are told in chapter vii. that—"In the self-same day entered Noah, and Shem, Ham, and Japheth, the sons of Noah, and Noah's wife, and the three wives of his sons with him, into the ark."

2. *The Children of Adah, and their Employments.*—Their mother's name is literally "manifest beauty." Jabal's occupation has already been characterized. His devotion to cattle-rearing led him away from the sheltering roofs of the city Enoch yet farther into the wilderness.

There he set the example of dwelling in tents, and of wandering from place to place as the wants of his herds demanded. In the plains, and by the mountain sides in which Jabal watched his flocks and herds, this nomadic shepherd life still flourishes. Adah's other son, Jubal, was the first who sought the help of instruments to give expression to the music in his own soul, and he became thus the father of all such as handle the harp and organ, even as Jabal was "the father of such as dwell in tents." The gloom which had been hanging over the household of Cain—the dread as if of coming judgment—had become much altered, or had passed away; and for himself and his friends Jubal had invented the harp and organ. All this showed the perseverance and talent of Jubal, as well as his tastes. An old poet describes him quaintly as detecting, while listening to the strokes of the hammer on the anvil,

> "The un-full harmony
> Of un-even hammers, beating diversely."

He then resolves to fall on some expedient by which the music which he has heard, in the stroke of the hammer on the anvil, shall be continued at pleasure—

> "And iterate the beating hammer's noise
> In milder notes, and with a sweeter voice."

Nor was the opportunity long in presenting itself. Thus we have the characteristic harp—

> "It chaunc't that passing by a pond he found
> An open tortoise lying on the ground,
> With th' which there nothing else remained
> Save three dry sinewes on the shell stiff strained.
> This empty house Jubal doth gladly bear,
> Strikes on these strings, and lends attentive ear,
> And by this mould frames the melodious lute,
> That makes woods hearken, and the winds be mute!"

We may take the description for what it is worth, as we bear in mind that the steps which led to the invention have not been narrated. Can we identify the instruments invented by the younger son of Lamech? Moses refers to them as instruments with which, in his day, the Hebrews were well acquainted. Of course it is not enough to allege here that, in referring to the inventions of Jubal, Moses merely named instruments in use when he wrote, as answering to the harp and organ of Cain's immediate descendant. He was led by the spirit of God in all

that he wrote; and as all that was told him had bearings of more or less value, we are not at liberty to regard even such descriptions as are here introduced as unimportant. The words, then, used here by Moses are of frequent occurrence in other portions of Scripture, and are used to point to the stringed and wind instruments with which the contemporaries of Moses are shown in this passage to have been acquainted. The instruments invented by Jubal had thus their representatives after the flood. This is another proof that antediluvian art had not been lost in consequence of the deluge. Reference will be made to these musical instruments in connection with other passages of Scripture.

3. *Zillah's Children.*—Those mentioned here are Tubal-cain and his sister Naamah. The similarity of the names of Lamech's sons take the attention of most readers—Jabal, Jubal, Tubal. Each, however, like Enoch, is expressive, and points to the profession which the individual was to follow. The root of the first signifies "increase," and indicates the pastoral life of Jabal; that of the second is equivalent to our word "blowing," as on a horn, and is associated with the mention of Jubal; and that of Tubal points to the metal with which he was to work. The name Naamah, like that of Adah, is suggestive of the "beauty" of its bearer, and betokens a certain refinement of feeling among these Cainites —a supposition which finds strong corroboration both in the musical accomplishments of Jubal and in the poetry of their father, Lamech. The conclusion is warranted in this case. In ages long posterior to that now looked at, we find the key to the social and moral condition of one generation and another, in the application of historical criticism to the names given by kings and by prophets to their children. But in their case they only followed a custom which had obtained from the beginning. The industrial arts, agriculture and handicraft, were cultivated side by side with the fine arts, music and poetry—Tubal-cain was the instructor of every artificer in brass and iron.

Subjects of much interest open up to us here. The great and peculiarly interesting question of the influence of tradition in giving rise to the mythological systems of after times, in Egypt, in Greece, and Italy in the past, and in India, Central Africa, and South America at present. Are we to find a trace of the tree of life in the homage paid to the Bo-tree (*Ficus religiosa*) by the Bhuddhist, to the oak by the Druid, to the ash by the oldest of the Teutonic tribes? Do the sphinxes of Egypt, the eagle-headed figures sculptured on the walls of Nineveh, and the human forms bearing the head of bird or beast met with in modern Hindoo superstitions, carry us back to the cherubim in the east

of Eden? Are we to identify Jabal with Pan, Jubal with Apollo, and Tubal-cain with Vulcan; and these again with corresponding deities to whom like employments are assigned by the Hindoos? It is scarcely to be doubted, that in all these we have dim traditions of Adamic times, transmitted through the household of Noah to the last epochs of the world. The now scattered rays of primeval light, which are to be met with over the wide world, can never be understood until we associate them with the descriptions of the earliest ages of the world's history preserved to us in the infallible record—the Word of God.

The metals mentioned in this verse supply subjects of interest of yet another kind. Most writers who have devoted themselves to the illustration of Scripture conclude that the "brass" referred to here can only mean copper. They have believed themselves shut up to this by such considerations as, that the state of the industrial arts at the time exclude the possibility of a knowledge of metallurgy implied in the power to make brass, and that there is no evidence in history that the mode of forming this compound metal was known until a comparatively recent period. Comparing the word used here with its use in other parts of Scripture, it is clear (1) that, under it, reference is sometimes made to native copper, and (2) to an alloy of copper with some other metal. There is the well-known passage in which, when describing Palestine as "the good land" which the Lord God had given to Israel, Moses, among other features, points to its metals. "A land," he says, "wherein thou shalt eat bread without scarceness, thou shalt not lack any thing in it; a land whose stones are iron, and out of whose hills thou mayest dig brass" (Deut. viii. 9). There can be no doubt that the metal last referred to here was a species of copper, or Cyprian ore as it was named from Cyprus, which occurred in lodes or veins among the hills of the Promised Land, where it is still to be met with, sometimes in eight-sided crystals, but most frequently in shapeless lumps. The ores of copper are known by the various names—native copper, white, grey, black, red, and variegated copper ores; velvet, emerald, olive, and tile ores; and as copper glance, malachite, azure copper, black oxide of copper, atacamite, copper mica, copper pyrites, and the like. The forms most available in modern commerce are the copper pyrites, the grey, and the azure copper ores. Some of these can at once be distin-

Fig. 70.

Crystals of Red Copper (*Cuprite*).

guished by the eye of the mineralogist, but most of them show their true character only when treated chemically. This metal is most frequently used as an alloy. The alloys of copper are chiefly such as are formed by its union with zinc and with tin. The well-known alloy, pinchbeck, or Prince Rupert's metal, is simply an excess of copper in the constituents that go to make brass. When copper, nickel, and zinc are brought together, under certain conditions and in certain proportions, the result is the alloy known by the name of German silver. Brass, properly so called, is an alloy of copper and zinc; and bronze is an alloy of copper and tin. The best bronze used for statues contains—

Copper,	91
Tin,	2
Zinc,	6
Lead,	1
	100

Mr. Layard gives the analysis of some of the bronzes found at Nineveh, and shows that the proportion of the matters in alloy with the copper differs according to the use to be made of it. The so-called brass of the ancients was an alloy of copper and tin in certain proportions. But it is not to be imagined that the result of its alloy with zinc was only known for the first time at a date comparatively recent. At a very remote period in the past there is evidence that this alloy was formed by a chemical mixture of calamine—an ore of zinc—with copper. It is thus likely that the metal referred to so often in Scripture as "brass," and that met with in profane history as "bronze," were the same, and that the latter was not exclusively a substance similar to that from which zinc as a constituent is excluded. The knowledge of art implied in fitting the copper for industrial purposes, and for pressing the iron ore into the service of man, would be equal to the task of compounding copper with tin on the one hand, or with zinc on the other. There can at least be little doubt that one of these compounds was in use at a very early period. The uses to which it soon came to be put were such as would find a more suitable expression in brass than even in bronze, and far more so than in copper. The ingenuity necessary in order to follow successfully the occupation of Tubal-cain would not be at fault when the metals occurred in circumstances which invited attempts to combine them. But while this was so, it would appear that the knowledge of metallurgy did not descend, as did the knowledge of other arts —architecture, for example. Even in ages long after the flood, the

knowledge of certain processes seems to have been confined to such a limited number of workers as to have made the product more precious than the simple metals, whose intrinsic value was naturally greater. "And the Lord spake unto Moses, saying, See, I have called by name Bezaleel, the son of Uri, the son of Hur, of the tribe of Judah; and I have filled him with the spirit of God, in wisdom, and in understanding, and in knowledge, and in all manner of workmanship, to devise cunning works—to work in brass, and in cutting of stones" (Exod. xxxi. 2). Again, even at the most advanced era of Hebrew civilization, this art had no high-class representatives among the people; for we are told that "Solomon sent and fetched Hiram out of Tyre. He was a widow's son of the tribe of Naphtali, but his father was a man of Tyre, a worker in brass; and he was filled with wisdom, and understanding, and cunning to work all works in brass" (1 Kings vii. 13, 14). Did the value set on this kind of work lead to the wide-spread cultivation of the handicraft itself among the Hebrews? The inductive evidence is strong. When Nebuchadnezzar came up against the land, he is represented as carrying away captive all that might be of special use to him. "He carried away all the princes, and all the mighty men of valour, even ten thousand captives, and all the craftsmen and all the smiths" (2 Kings xxiv. 14). In two other passages the carrying away of the smiths—the true successors of Tubal-cain—is specially mentioned. Both Sennacherib and Shalmaneser may then have borrowed the art from the captives, and the bronzes of Babylon and of Nineveh may have been the work of Hebrew craftsmen. Most likely they were. But the fruits of art were to return again to Palestine. Thus among the temple furniture of Ezra, brought from the land of their conquerors by the returned captives, we are told that there were two vessels of fine copper—literally, of "yellow shining brass"—"precious as gold" (Ezra viii. 27). This passage is thus paraphrased by Josephus:—"Now Esdras presented the sacred money to the treasurers, who were of the family of priests, of silver six hundred and fifty talents, vessels of silver one hundred talents, vessels of gold twenty talents, vessels of brass, that were more precious than gold, twenty talents by weight" (Joseph. Antiq. book xi. chap. v. 2). Thus even the profession of Tubal-cain sheds light on the employments of postdiluvian times, and these in their turn become helpful to an understanding of the work of Cain's early descendants: even as the arborescent ferns of the Coal period tell the tale of a climate, and associated biological relations, analogous to what at this day obtain in intertropical regions, and the corresponding forms there help us to

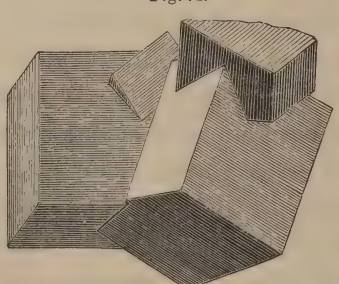
understand the very circumstances amidst which the plants which we now use for fuel, under the name of coal, flourished millions of years ago. This bearing in Scripture of the Past on the Present, and of the relation of both to the Future, which in its turn is to shed new light on them, meets us even in connection with things otherwise most trivial. And thus, too, the inexhaustibly rich mine, which every aspect of thoughtful individuality has opened up to it in the Word of truth. To the philologist it ever offers topics of fresh interest—to the naturalist, never-ending occupation—to the student of comparative historical criticism, material for a long life of study—to the ecclesiastic, important aspects of church polity and law—to the theologian, the elements for doctrinal generalizations—and for them all, as for all men everywhere, the motive for adoring gratitude and praise:—"Herein indeed is love, not that we loved God, but that God loved us, and sent his Son to be the propitiation for our sins."

Fig. 71.

Dendritic Native Copper.

Tubal-cain's art extended to working in iron as well as in copper and, no doubt, in some of its compounds. Here, again, it is necessary to take for granted a much more advanced state of industrial art than at first sight might seem necessary, when we glance at the expression "artificer in iron." Men who have turned their attention to the illustration of Scripture from the point of view of science in union with theology, have, I believe, without exception, passed lightly over this passage with some not very appropriate remarks about "native iron." "In whatever region Tubal-cain," says Dr. Kitto, "began to exert his inventive genius, native iron might have been found, whether the site was volcanic or otherwise." But if we shall be satisfied with this view, we miss another of those opportunities of gathering together scattered elements which go, by fair induction, to present a somewhat vivid picture of these primeval days. We have fallen too much into the track of modern antiquaries,

Fig. 72.



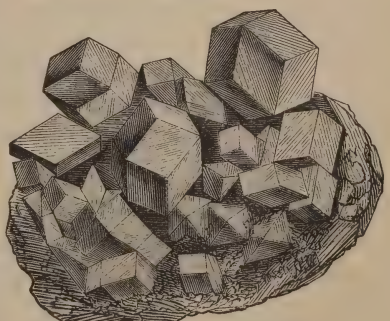
Pyrites in Cubes.

whose generalizations regarding an age of stone weapons, succeeded by one of weapons of bronze, and these again by another of weapons of iron, are held to shed light on the whole path of human civilization, and on the whole progress of the arts. Yet this theory is not modern, as the lines from Lucretius show:—

> "Man's earliest arms were fingers, teeth, and nails,
> And stones, and fragments from the branching woods.
> Then fires and flames they joined, detected soon;
> Then copper next; and last, as latest traced,
> The tyrant iron."

This kind of progress is not, however, true either to historic or prehistoric annals. Herodotus, writing about four hundred and fifty years before the Christian era, describes all the varied forms of weapons of war as obtaining at the same period in the army which Xerxes had, in his own time, led against Greece; the host numbered above five millions. Of these he tells us the Persians had "breastplates with iron scales like those of fishes" (steel-plate armour?); the Assyrians "had helmets of brass, twisted in a barbarous fashion," they had shields, and spears, and daggers, and "wooden clubs knotted with iron;" the Scythians carried bows peculiar to their country, and "daggers, and also battle-axes;" the Indians "clad with garments of cotton, had bows of cane, and arrows of cane tipped with iron." The description, which is very full, is interesting both from the ethnological and antiquarian point of view. In its bearing on the early use of iron, its value is great. It shows that the more remote the situation of the tribe from the great centres of civilization at that time, the less was the use made of iron by them. Thus of the distant Ethiopians Herodotus says "they were clothed in panthers' and lions' skins, and carried long bows, not less than four cubits in length, made from branches of the palm tree; and on them short arrows made of cane; instead of iron they were tipped with a stone, which was made sharp, and of that sort on which they engrave seals." These spears were pointed with flint or with different kinds of quartz, in the same way as those in use among the ancient Britons. Herodotus also mentions among the gifts presented by Alyattes the father of Crœsus, to the

Fig. 73.



Crystals of Magnetic Iron Ore.

oracle at Delphi, "a salver in steel curiously inlaid, a work among all the offerings at Delphi the best worth looking at" (Book i. 25). Yet the same author appears to intimate elsewhere, that the Spartans at least were behind some other nations in the art of forging iron. In relating the legend of the bones of Orestes, he represents the Spartan knight Lichas (Book i. 68) as entering accidentally a smith's workshop at Tegea, and gazing in wonder at the smith as he plied his art, "counter-stroke answering stroke."

In the Homeric poems frequent allusions are made to the use of this metal. One or two examples will suffice:—

"Bright Hebe waits; by Hebe, ever young,
The whirling wheels are to the chariot hung.
On the bright axle turns the bidden wheel
Of sounding brass; the polished axle steel."—(*Iliad*, b. v.)

"Great Areithous, known from shore to shore
By the huge, knotted, iron mace he bore."—(*Iliad*, b. vii.)

"Wide o'er the field, resistless as the wind,
For Troy they fly, and leave their lord behind.
Prone on his face he sinks beside the wheel,
Atrides o'er him shakes his vengeful steel."—(*Iliad*, b. vi.)

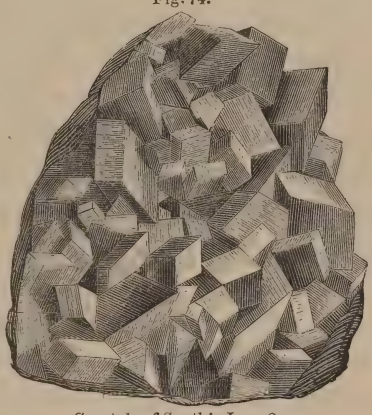
"Mentes my name; I rule the Taphian race,
Whose bounds the deep circumfluent waves embrace;
A duteous people, and industrious isle,
To naval arts inur'd, and stormy toil.
Freighted with iron from my native land,
I steer my voyage to the Brutian strand;
To gain by commerce, for the labour'd mass,
A just proportion of refulgent brass."—(*Odyss.*, b. i.)

Many more references might be given. These show the very early date at which iron was employed, both in weapons of war, in mechanics, and in connection with a very highly advanced state of the fine arts. Quotations might be made from Mr. Layard's work on Nineveh corroborative of those given above. The value of such references is chiefly apologetic. It has often been alleged, that the allusions to various metals in the Scriptures cast a doubt on the great antiquity of the Old Testament. It is said, we have no warrant to believe that these metals, iron especially, were in common use till a comparatively recent period. It seems now, however, that few well-informed persons will doubt that evidence of the use of iron can be obtained from some of the sources of

profane history, at a date so remote as about 1540 B.C. In a book containing so many pictures of the earliest families of the human race as the Scriptures do, we might expect direct references to any of the metals with which they were acquainted, because these ever hold a chief place in the industrial arts of every people. At whatever period of the history of the chosen people, then, we meet with the mention of any of the metals, the use of which implies mechanical skill, we are entitled to regard this as one element of an important kind in the social history of the nation.

"Iron," says Job, "is taken out of the earth" (xxviii. 2); literally out of the dust, the word here translated earth being the same as that used in Gen. ii. 7, "The Lord God formed man of the dust of the ground." Man, asserts the patriarch of Uz, is great. He looks beyond the outward appearance of things. That which is but dust to the ignorant, is seen by the wise to contain treasure—"Iron is taken out of it." In the magnificent description of "behemoth" in the same book (xl.), malleable iron is alluded to—"His bones are like bars of iron." Zophar (xx. 24) says of the wicked —"He shall flee from the iron weapon, and the bow of steel shall strike him through." And Job shows that it was used for writing—"Oh that my words were now written! Oh that they were printed in a book! that they were graven with an iron pen and lead in the rock for ever"—words whose true import requires that the *pen* and the lead be associated, for the reference is to the ancient custom of writing public documents on sheets of lead. The free translation of Dr. Good brings this well out:—

Fig. 74.



Crystals of Spathic Iron Ore.

> "Oh that my words were now written down;
> That they were engraven upon a table,
> With a pen of iron upon lead!
> That they were sculptured in a rock for ever!"—(xix. 23, 24.)

From the books of Moses alone we learn, that at the early period in the history of the world in which they were written, the use of iron was common as an article of household furniture, as employed in the mechanical and industrial arts, and also in the practices of war.

Instead, then, of holding that even as to material wants God left

man, as the phrase is, to look after himself, there is a higher, a nobler view which may be associated with this, and one much more in keeping with the fatherly goodness of God to the infant race. His care of them in regard to their clothing has already been noticed; and there seems no doubt at all that he who later put his spirit into Bezaleel, in order to the realization of some of the highest aspects of industrial art, guided the immediate descendants of Adam to the knowledge of arts indispensable, in the region in which they were placed, to their very existence. And that this was in the family of Cain still more interests us. They knew him not as a father, though he still regarded them as children, just as he now says to one and another, "My son, give me thine heart," even while we withhold the heart from him, and acknowledge not the divine paternal relation.

But this is not mere theory. The power and skill implied in forming iron into useful articles was such at that time as to find its explanation only in the direct guidance of God, vouchsafed to the immediate descendants of Adam. Even with the acknowledgment of most protracted lives claimed for the antediluvians, art had not had time, according to the well-known laws of human progress, to reach the point to which in the youth of Tubal-cain it had attained. This conclusion is drawn from the fact, that the iron could not be native iron, properly so called. Native iron is of very rare occurrence; so rare, indeed, that if articles in iron could have been made only from it, they would have been ten times more precious than gold. It is found native under two forms—1. It occurs in thin laminæ, or filaments, in connection with magnetic ironstone, or with sulphur pyrites. In the former association it is sometimes met with in very small quantities among the platina sands of the Ural Mountains, and in the latter association in the Keuper beds of Thuringia. 2. It occurs as meteoric iron, sometimes in a large mass; in one case on record the weight was found to be 30,000 pounds; but this is very rare. Most frequently it is met with only in particles, in meteorolites, or meteoric stones. The inferences from this are clear—namely, that the iron with which Tubal-cain worked was not native iron, but a species similar to the clay ironstones, which in this land chiefly yield the iron of commerce; and that the application of art necessary in order to fit this for useful purposes implied, in those early times, a knowledge of industrial pursuits far higher than is commonly believed. Iron melts

Fig. 75.

Arborescent Iron Pyrites.

at a temperature of about 3000° Fahrenheit. It is curious that the Greek account of the discovery of iron is traced to an accidental application of fire to it. The tradition was, that in 1406 B.C. the burning of Mount Ida fused the veins of ironstone contained in it, and suggested to the people the use of the melted matter in the arts and in war.

Iron is very frequently mentioned in Scripture, and is named twelve times in the writings of Moses alone. Sometimes the notices are accompanied by other references which shed light on the industrial habits of the Hebrews. Thus Jeremiah (chap. xv. 12) asks, "Shall iron break the northern iron and the steel?" The northern iron seems to have been superior to that in the mountains of Syria proper, and to have been imported for higher uses than the common kind was found equal to. The word rendered "steel" in this passage, and also in Psalm xviii. 34, refers to a compound of copper.

An interesting illustration of the comparative value of iron and alloys of copper in very early times, is given by Mr. Layard in his well-known work on Nineveh. "It would appear," says Mr. Layard, "that the Assyrians were unable to give elegant forms or a pleasing appearance to objects in iron alone, and that, consequently, they frequently overlaid that metal with bronze, either entirely or partially, by way of ornament. Numerous interesting specimens of this nature are included in the collection in the British Museum. Although brass is now frequently cast over iron, the art of using bronze for this purpose had not, I believe, been introduced into modern metallurgy. The feet of the ring tripods furnish highly interesting specimens of this process, and prove the progress made by the Assyrians in it. The iron inclosed within the copper has not been exposed to the same decay as that detached from it, and will still take a polish."

Herodotus also indirectly informs us that iron was in common use in Egypt at a very early period.—(See extract under Numbers xi. 4–6.)

Only two other subjects require a brief notice here. These are, the address of Lamech, and the advance in spiritual worship among men. Lamech's address introduces us to another proof of high civilization in Adamic times, when it is looked at along with the arts which were first cultivated by his sons. We have the poetry of the father, the music of one son, and the industrial and mechanical arts of another. Much speculation has been brought to bear on the words of Lamech. They have been held to declare the descendant of Cain to have been worse than Cain himself, or to have formed a part of a continuous history of antediluvian times, a scrap or fragment of which Moses had picked up,

as handed down from the time of Noah. But to most the satisfactory answer to this will ever be—"All Scripture is given by inspiration of God." The words were used by Lamech, and, from whatever source they may have come to Moses, they were given to him by the Spirit of God:—

> "Adah and Zillah, hear my voice,
> Ye wives of Lamech, hearken to my words;
> For I have slain a man for my wound,
> And a young man for my hurt.
> Yet Cain shall be avenged seven-fold,
> But Lamech seventy and seven-fold."

He seems to have been attacked by a youth, and, in self-defence or by accident, to have slain him. His wives, alarmed lest vengeance should overtake him, need to be pacified; and he utters these words, which thus fit exactly into the narrative, to soothe them. As if he had said, "If Cain, who was purposely guilty, has been hedged around by divine arrangement, and will be avenged seven-fold if any hurt him, will not I be avenged seventy and seven-fold, who have done this in circumstances which contain in them their own palliation?" There comes thus to be no need of any wild hypothesis. The words are in their true and proper place. They occur here, not by mistake or through accident, but as part of a narrative in which the trustworthy history of these early ages of the world is contained.

The expression, "Then began men to call on the name of the Lord," has been even more fruitful of topics for speculation than the much-debated address of Lamech. But the difficulty is by no means formidable. It is natural to expect references to a gradual advance in spiritual worship in the opening chapters of Genesis, after God had revealed himself to man as a God of righteousness and grace. Accordingly these words point to another step onward and upward on the part of the seed that served God. We have noticed the progress from the fears of a guilty conscience, and the covering of fig leaves, to that rest in the promise of grace which bore fruit in the sacrifices, the flocks, and the coats of skin of the infant race. From this, again, we passed to yet higher ground in that manifestation of the special presence of God, and of a recognized place of worship pointed to by the cherubim on the east of Eden. And here we find, that as the race increased and was forced to wander away from Eden and the special presence revealed brightly on the east of it, the people betook themselves to prayer in their absence from the visible symbol. We have thus the prayer of faith—"Then began men to call on the name of the Lord."

GENESIS V.

THIS is the book of the generations of Adam." These words, which stand as a title to this chapter, introduce us to all the difficulties connected with the chronology of the earliest ages of the world. The usual way of treating this subject, is to regard the time between the creation and the flood as the first great chronological period. Some, however, make the first great period run from Adam to the calling of Abraham. The former plan is more satisfactory, because it keeps us free from the disputes connected with the second Cainan, until we fully examine the genealogy of Noah, and attain well-defined rules for guiding us in dealing with other genealogies. One Cainan is introduced in the genealogical table given by Luke (iii.), as the son of Enos and grandson of Seth. Another Cainan is mentioned in the same chapter (ver. 36) as the son of Arphaxad, and thus the grandson of Noah's son, Shem. No notice is taken of the latter Cainan in this chapter. Reference will be made to this when the genealogy of Abraham comes to be considered.

The chief passages to be noticed, in connection with the chronology from Adam to Noah, occur in this and the four preceding chapters. "And Adam lived an hundred and thirty years, and begat a son in his own likeness, after his image; and called his name Seth. And the days of Adam, after he had begotten Seth, were eight hundred years; and he begat sons and daughters. And all the days that Adam lived were nine hundred and thirty years: and he died" (ver. 3–5). "And Lamech lived an hundred eighty and two years, and begat a son; and he called his name Noah, saying, This same shall comfort us concerning our work and toil of our hands, because of the ground which the Lord hath cursed. And Lamech lived, after he begat Noah, five hundred ninety and five years, and begat sons and daughters. And all the days of Lamech were seven hundred seventy and seven years: and he died. And Noah was five hundred years old: and Noah begat Shem, Ham, and Japheth" (ver. 28–32). "And it came to pass after seven days, that the waters of the flood were upon the earth. In the six hundredth year of Noah's life, in the second month, the seventeenth day of the month, the same

day were all the fountains of the great deep broken up, and the windows of heaven were opened" (vii., 10, 11). "And Noah lived after the flood three hundred and fifty years. And all the days of Noah were nine hundred and fifty years: and he died" (ix., 28, 29). The division of time into periods first claims attention here. In the chapters already noticed, such terms as years, seasons, months, and days occur. These terms must be fully defined, before we can be in circumstances to deal with the chronology of the period from Adam to Noah.

Years.—It is beyond doubt that, even so early as the time of Noah, the mode of reckoning time was much the same as it is now. The year at the period of the deluge was the natural year, consisting of twelve lunar months, most likely of thirty days each. The present year, which embraces the time in which the earth moves in its orbit, is equal to three hundred and sixty-five days, five hours, forty-eight minutes, and forty-nine seconds. It is clear, from the narrative of the flood, that the year was not, as now, the solar year. Thus, we are told that, "In the six hundredth year of Noah's life, in the second month, the seventeenth day of the month, the same day were all the fountains of the deep broken up, and the windows of heaven were opened" (vii., 11). In the description of the continuance of the deluge it is said, "And the waters prevailed upon the earth an hundred and fifty days" (vii., 24). "The fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained; and the waters returned from off the earth continually: and after the end of the hundred and fifty days the waters were abated" (viii., 2, 3). And in the next verse (4) we have a picture of the floating ark beginning to touch the dry land—"And the ark rested in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat." We have thus five months indicated, and, if we assign to these thirty days each, we get the one hundred and fifty days of the preceding verses. The year in the time of Noah was thus reckoned by twelve lunar months of thirty days each, or three hundred and sixty days in all.

In the case of the solar year referred to above, in ordinary reckoning the fractions of time are left out, and the common civil year is held to consist of three hundred and sixty-five days only. But this implies that a day is lost in the course of four years, and this necessitates an artificial arrangement, by which the difference between the natural and the civil year is equated. There is proof that at a very early period a similar expedient was had recourse to in regard to the difference between the solar and the lunar years. Reckoned by twelve lunar months, there

would be a loss of about eleven days by the sun every year. Thus the people were obliged once in three years to add a thirteenth month to the year. In later times of the Jewish history this intercalated month was named *Veadar*, or the second Adar—the first Adar being the twelfth month of the ordinary year. Reference will again be made to this when we come to look at the division of time instituted at the Exodus.

Seasons.—The introduction to the work of the fourth creation day runs thus—"And God said, let there be lights in the firmament of heaven to divide the day from the night, and let them be for signs, and for seasons, and for days, and for years" (i., 14). And at the close of chapter viii. we have the words of the Lord to Noah, uttered from the midst of the incense clouds of the sacrifice—"While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night, shall not cease." These allusions to natural phenomena have been held to warrant the following general division of the year into six seasons:—

Summer = 15th August to 15th October.
Seedtime = 15th October to 15th December.
Winter = 15th December to 15th February.
Cold = 15th February to 15th April.
Harvest = 15th April to 15th June.
Heat = 15th June to 15th August.

But while there may be a very vague and general agreement between this arrangement and the climate of Palestine, it is forgotten that we have not here to do with Palestine only, or even with Asia Minor. The reference to seasons is of the widest kind, and is designed for every people and for all climes. Besides, the occurrence of the words "day and night" plainly intimate that the other expressions are used in the same general way. The word seasons thus includes all the natural conditions of climate referred to above, without any definiteness as to special dates. The day and the night runs through them all, and so may the cold and the heat. Seedtime and harvest also vary greatly in different lands. Strictly speaking, the seasons were only two—summer and winter; and the subordinate divisions were ranked under these. This conforms with Scripture usage. The sovereignty of the God of grace over the times and seasons is thus acknowledged in Psalm lxxiv.:

"The day is thine, the night also is thine;
Thou hast prepared the light and the sun
Thou hast set all the borders of the earth:
Thou hast made summer and winter."

And when Zechariah describes, in glowing words, the outgushing of that river whose streams make glad the city of God—the triumph of good over evil, the prevailing power of spiritual life in the last days—he says, "And it shall be in that day, that living waters shall go out from Jerusalem; half of them toward the former sea, and half of them towards the hinder sea: in summer and in winter shall it be" (chap. xiv. 8). But while this may have answered the purposes of the poet and the prophet in remote times, it cannot be doubted that one complete revolution of the sun—the year, in short—was from earliest ages divided into four distinct periods, answering to the four seasons. These, strictly speaking, may be set down thus—

Spring = the interval between 21st March and 21st June.
Summer = the period between 21st June and 23rd September.
Autumn = the interval between 23rd September and 21st December.
Winter = the interval included between 21st December and 21st March.

The explanation of the seasons is to be found in the varied positions which the earth assumes in its revolution round the sun, and the explanation of the phenomena of day and night in the position of the earth to the sun in its revolution on its own axis. The former occurs once in a year, the latter once in every twenty-four hours. The following simple diagram will best illustrate these statements. In the revolution of the earth round the sun, its poles, or axis of rotation, 1, 2, are held obliquely to its orbital plane or path in which it moves. This is represented by the undotted lines in the diagram. The poles are constantly directed to the same point of the heavens, and are thus always parallel to the line with which they coincided at the first position of the earth in its revolution round the sun. Thus 1, 2, at position II., is parallel to 1, 2, at position IV. In the former, moreover, the top, 1, of the axis of rotation, or north pole, is directed towards the sun; while the bottom, 2, or south pole, is turned away from it. In the latter the reverse is the case. When the earth, then, is in position II., the northern hemisphere has summer. The rays of the sun fall more perpendicularly on it, and the days are longer than the nights. When it is in position IV., the northern hemisphere has winter. The rays of light fall more obliquely on it, they have to travel through a more extensive space and a thicker atmosphere, and the nights are longer than the days. In positions I. and III. one-half of the globe is illuminated from pole to pole, and the days and nights are of equal duration. Thus, when the earth is at I. in the plane of its orbit, the date is March 21—that,

namely, of the Vernal Equinox; at II. we have June 21, the time of the Summer Solstice; at III., September 23, the season of the Autumnal Equinox; and at IV. we have December 21, the period of the Winter Solstice. At the 21st of March the day and the night last twelve consecutive hours each. But as the earth moves to position II. the day is lengthened, and the heat naturally increases. Strictly speaking, this increase should be at its maximum on the 21st of June, but, on account of modifying circumstances, it is in reality about the 15th of July; and from this date the days become gradually shorter for all places north of the equator, until the earth reach position IV. on the 21st of Decem-

Fig. 75.

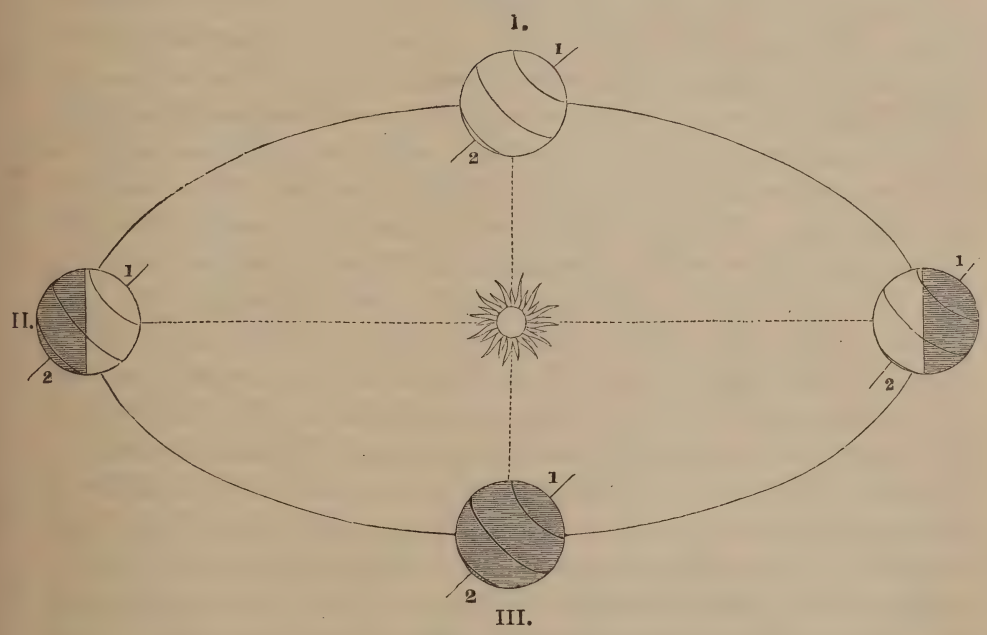


Diagram of the Seasons.

ber. These remarks, of course, are strictly true only of the seasons in the northern hemisphere. To them only and their related phenomena are references made in the Scriptures. The seasons of intertropical climates come under other laws, and are to be explained rather by the periodic prevalence of certain winds, and wet or dry periods, than by the position of the earth to the sun. The mean distance of the sun from the earth is ninety-five millions of miles. The earth travels in the plane of its orbit at the rate of about nineteen miles per second.

Months.—Reference has already been made to these. The origin of the division of the year into months is to be traced to the observation,

on the part of the earliest inhabitants of the world, of the phases of the moon. The etymology of the word *month*, both in the Hebrew, the Hellenic, and Teutonic branches of language, points to this. Much of the trustworthiness of systems of chronology depends on a definite understanding of the idea attached to the word in ancient times. Great diversity in the use of the term prevailed among the nations with whom the chosen people of God were, especially in the kingly period of their history, brought in contact. Changes are likewise to be noticed even in the precise meaning attached to it by the Hebrews themselves at different times. When we come to consider the Jewish year this will be taken into account.

Days.—The earth makes one revolution on its axis every twenty-four hours. This period constitutes the natural day. It was divided into two at the beginning—"God called the light Day, and the darkness he called Night" (Gen. i. 5). Generally, then, the day embraced the period of light, and began with the morning; and the night the period of darkness, and began with the dusk. Other ideas came to be associated with the term. Thus the time at which the sun appeared above the horizon was held to be the commencement of the day, and his disappearance to be the beginning of night. As this varied throughout the year, the days and nights could not always embrace the same number of hours. At the Levitical period an important change was introduced with reference to the day of atonement—Sabbath. The beginning of that day was to be reckoned from the evening—"It shall be unto you a Sabbath of rest, and ye shall afflict your souls: in the ninth day of the ninth month at even, from even unto even, shall ye celebrate your Sabbath." This computation, which was at first connected with a special religious *week*, came afterwards to influence the whole Jewish mind, and indeed still continues to do so. The earliest division of the civil day among the chosen people was into morning and evening. It came afterwards to be distinguished by three unequal parts—namely, morning, noon, and evening:—

> "As for me, I will call upon God;
> And the Lord shall save me.
> Evening, and morning, and at noon, will I pray,
> And cry aloud; and he shall hear my voice."—(Ps. lv 16, 17.)

But there is abundant proof that a much wider signification is attached to the word day than the period merely of twenty-four hours. While this requires to be kept in view in any scheme of chronology, it is not

to be forgotten, that when the term has this extended meaning we are either informed directly that such is the case, or we are led indirectly, by the context, to the same conclusion. This is shown in the following passages:—"These are the generations of the heavens and of the earth when they were created, *in the day* that the Lord God made the earth and the heavens" (Gen. ii. 4). The word "day" here embraces the creative week. "It is *a day* of trouble, and of treading down" (Isa. xxii. 5). This "day of trouble" includes the whole of those times "of perplexity by the Lord God of hosts in the valley of vision" which were experienced by the people of Jerusalem during its different sieges by Sennacherib, Esarhaddon, Nebuchadnezzar, and Titus—the prediction in this case being generic, and intended to describe the judgments of God at different periods, and the feelings of the people while under these. "I have appointed *a day for a year*" (Ezek. iv. 6); "*The day of temptation* in the wilderness, when your fathers tempted me, proved me, and saw my works *forty years*" (Heb. iii. 8, 9); "And the angels which kept not their first estate, but left their own habitation, he hath reserved in everlasting chains under darkness unto *the judgment of the great day*" (Jude 6). The last expression extends over the whole period of judgment.

The data for Scripture chronology can, in so far as direct evidence goes, be found only in the Bible itself. The genealogical lists of the first families of mankind, must form the bases of sacred chronology; and had there been only one set of numerical data in existence, all difficulties would have been kept out of the way. There are, however, three great versions of the Pentateuch, or five books of Moses, each of which has been held authoritative on this point. It has thus come to pass that three schemes of chronology have been elaborated from the genealogical lists given in Genesis. The versions now referred to are the Hebrew, the Samaritan, and the Septuagint (LXX.) versions. The care with which the Jewish nation watched over their sacred books is well known. Till the time of the Christian era, all the people accepted implicitly the books of Moses, as authentic records of historical events. And after the manifestation of God in the flesh, his disciples had every reason to watch with greatest care over the Old Testament Scriptures. Had there been no other influences at work, chronologers might have followed the dates in the Hebrew genealogies with implicit confidence. But, about four hundred years before the Christian era, the Samaritans broke away from allegiance to the Jewish church, and set up as a sect claiming to be free from all control on the part of the Hebrew

doctors. They denied the authority of all the Old Testament books except the Pentateuch, a version of which they made in the oldest form of the Hebrew characters. This version differs in very many places from the Hebrew, and some have held that it is even more trustworthy than the latter. The important differences in the genealogical dates have been alleged to be more worthy of belief than those of the Hebrew version, and from this source one disturbing element has been introduced into the historical chronology of the period from Adam to the death of Moses. But it is now held by biblical scholars, that the important differences between the Hebrew and Samaritan versions, are to be traced to the desire of the Samaritans to bring glory to their sect, or to attempts to shed light on what were believed to be obscurities in the chronology and doctrine of the Hebrew text.

Much weight has undoubtedly accrued to the Samaritan version from the fact, that the Greek translation of the Old Testament—known as the Alexandrian version, the Septuagint, or version of the Seventy—greatly resembles it in the mode in which the Pentateuch is rendered. This has led to the hasty supposition, that the Samaritan text is really older than the present Hebrew text. But, before such a supposition could be warranted, it would have to be shown both that the translators of the Septuagint confined themselves to an older and purer Hebrew version, than is represented by the existing one, and that they did not make use of the Samaritan version at all. The date of the Septuagint may be set down as about two hundred and eight-two years before the Christian era. There is no good foundation for the Jewish account of the origin of this version. The Jews alleged that it was the work of seventy-two persons, who were employed by the elders to render the Old Testament into the Greek language, to meet the wants of their countrymen, in their intercourse with the Gentiles. It has, however, served a deeply interesting purpose. By means of it, the first preachers of Christianity were enabled to make known the mind of God, as revealed in the Old Testament, to the most influential part of the Gentile world in their day. It had, too, generations before, shed some rays of true heavenly light upon the philosophy and morality of the learned among the Gentiles.

From these three sources, then, come the materials for the chronology of the earliest age of the world. A comparison of these yields the following results. The dates refer to the age which each had attained at the birth of his eldest son, with the exception of Noah, whose 500th

year is associated with three sons, so that other two years may be added to the Hebrew text.

	Hebrew.	Samaritan.	Septuagint.
Adam,	130	130	230
Seth,	105	105	205
Enos,	90	90	190
Cainan,	70	70	170
Mahalaleel,	65	65	165
Jared,	162	62	162
Enoch,	65	65	165
Methuselah,	187	67	167
Lamech,	182	53	188
Noah,	502	502	502
	1558	1209	2144

These dates give us a difference of 349 years between the Hebrew and the Samaritan versions, and a difference of 586 between the Hebrew and the Septuagint. The disagreement between the Samaritan and the Septuagint versions is, however, even greater. In this case the difference is 935 years. It will be seen that the text of the Septuagint in all cases, except two, adds a period of 100 years to the dates of the Samaritan text. The exceptional dates are those of Lamech and Noah. As regards the former, it is interesting to find that Josephus, whose chronology of this period is in all other respects the same as that of the LXX., takes here the date of the Hebrew version, 182. Now, without any minute examination of the grounds of controversy as to the comparative value of the chronology of the different versions, it is evident, even from the table given above, that the weight of authority lies with the Hebrew version. Occupying a middle position between the other two, it finds, at different points, strong corroboration from both. Thus when, in the case of Adam, its date is below that of the Septuagint by a century, the Samaritan agrees with it. And when, in the case of Jared, it rises above the Samaritan by a century, the date of the Septuagint is found to be the same. As regards, again, the variation in the dates of Lamech's age, when he "begat Noah," the Hebrew is corroborated by the testimony of Josephus. While considerable latitude may be allowed to biblical students in questions of Scripture chronology, it appears, almost beyond doubt, that the Hebrew reckoning may be considered genuine. In such a question difficulties might be expected, but a near approximation to the precise time should satisfy all, and this is undoubtedly supplied by the scheme of the Hebrew text.

Most extraordinary, if not absurd conclusions, have been come to regarding the chronology of the world, based on Egyptian Chronicles, and the results of historical criticism applied to Egyptian art, &c. More than 33,000 years are assigned to the antediluvian period of Egyptian history, and nearly 3000 to the same history from the deluge to B.C. 359—claiming as a total from the beginning up to that date above 36,000 years—a period perfectly satisfactory to Mr. Gliddon and Egyptologists of his stamp. Baron Bunsen, again, has no doubt that the date of the creation of Adam was about twenty thousand years before the Christian era, and the birth of Noah about ten thousand! Such calculations are made on bases from which, in their very nature, certainty is as thoroughly excluded as it is from the mythic chronicles of the Hindoo or the Chinaman.

The table given below indicates the principal dates in the Hebrew genealogical lists, from the creation to the death of Noah:—

	Birth.		Death.	
	Year of World.	Before Christ.	Year of World.	Before Christ.
Adam,	1	4004	930	3074
Seth,	130	3874	1042	2962
Enos,	235	3769	1140	2864
Cainan,	325	3670	1235	2769
Mahalaleel,	395	3699	1290	2714
Jared,	460	3544	1422	2582
Enoch,	622	3382	987	3017
Methuselah,	687	3317	1656	2348
Lamech,	864	3130	1651	2353
Noah,	1056	2948	2006	1998

The deluge occurred in the year 2348 B.C., the year in which Methuselah died. Noah lived till 1998 B.C., or two years before the birth of Abraham.

Enoch, "the seventh from Adam," was 365 years old when "he was translated, that he should not see death: for before his translation he had this testimony, that he pleased God" (Jude 14; Heb. xi. 5). "He walked with God: and he was not, for God took him" (Gen. v. 24). There is profound meaning in this record of the faith and practical piety of Enoch. The revelation of grace was so cordially accepted by one of Adam's children, who lived with his eye ever on the second coming of the Messiah, that it rescued both body and soul from the curse which rested on sin. The complete man was translated. The redeemed soul and the transformed body were taken up to heaven. They became a grand prophecy of the restoration of the whole man—body and spirit—

"at the resurrection of the just." Enoch's translation foreshadowed that of which Christ's resurrection was the first-fruits. In what way soever God revealed himself to man, in the seventh century from Adam, there was thorough provision made for opening up the joyous hope of heaven to those who "walked with him," as did Enoch. The record, moreover, of Enoch's faith and blessed lot, preserved to the chosen people in postdiluvian ages, kept them ever in contact with thoughts which could not fail to elevate their whole spiritual nature as they, too, looked up to that Father who had taken Enoch home.

It is worthy of notice that no dates occur in the genealogical list of the Cainites, given in the preceding chapter; whereas in this one, every eldest son is associated not only with the date of his own birth, but with the age of his father at the time of his birth, and with the number of years during which his father lived. God's eye was even then on his church for good. The genealogy of the Sethites supplies, mainly, all that we have for a history of "the church of the living God," from the time between that at which the promise of grace was given to Adam and that at which Noah entered into the ark. The other great branch of the human family, noted for its attainments in industrial pursuits and in the fine arts, had no part in the transmission of that revelation of righteousness and grace, on which the very heart of God himself was set. Consequently, no more is said of the Cainites, than is necessary to our appreciation of their influence in the world, to our knowledge of that growth of evil which culminated at the period of the flood, and to our understanding of the forbearance and long-suffering of God. The existence of the world "lying in the wicked One" is simply recognized, but special mention is made of the church—"the pillar and ground of truth."

The birth of Noah brought great hope into the household of his father Lamech. "And he called his name Noah, saying, This same shall comfort us concerning our work and toil of our hands, because of the ground which the Lord hath cursed" (ver. 29). Noah's name was thus symbolical. Literally it indicates that "rest which brings comfort with it," though some have found in it an entirely different thought by deriving it from another root. It means, they allege, "thoroughly unhappy," and points to the misery of Lamech and his household. But the whole spirit of the Sethite's song on the birth of his child, is of hope and joy. But of what does Lamech here sing? Did he, as Dr. Kalisch on this alleges, anticipate the grant of animal food given to Noah? The time when man "was to be no more entirely

dependent on the uncertainty of the skies, or the strength of the earth, when he would find *rest* from the uninterrupted fatigues of agriculture, and be partially *consoled* for the divine curse which was inflicted on the earth." I have already shown that, it is highly probable, animal food was partaken of from the beginning. The name was, no doubt, given to Noah because of certain existing circumstances in the experience of Lamech, which stood related to his life as engaged in the pursuits of agriculture. It was thus in after ages in the case of Isaac, of Moses, of Ichabod, and others. Whenever the name was prophetic, it arose out of an existing social or domestic condition, and the bestowal of it was accompanied with intimations which left little doubt as to its bearing. In the case of Noah, the explanation seems to be homely enough. Lamech was oppressed with work, and he looked to the help which this child was to give him as indeed a comfort "concerning his work and toil of his hands, because of the ground which the Lord hath cursed."

GENESIS VI.

"AND it came to pass, when men began to multiply on the face of the earth, and daughters were born unto them, That the sons of God saw the daughters of men that they were fair; and they took them wives of all which they chose. And the Lord said, My Spirit shall not always strive with man, for that he also is flesh: yet his days shall be an hundred and twenty years. There were giants in the earth in those days: and also after that, when the sons of God came in unto the daughters of men, and they bare children to them, the same became mighty men which were of old, men of renown" (ver. 1–4).

The questions which meet the student of the word of God in these verses, must ever attract much attention, both on account of their interest in the natural history of man, and because of their bearings on the spiritual and moral condition of the world at the period of the deluge. They give us a vivid glimpse of the deep and wide-spread darkness, which brooded over the moral world, at the time "when God saw that the wickedness of man was great in the earth." As one design of this work is to give a full and continuous expository outline of the topics embraced in the introductory chapters of Genesis, the subjects now named require to be noticed.

The reference in verse 1 to the marriage of the sons of God with the daughters of men, has given rise to much discussion and to many extravagant theories. The learning of ripe scholarship, the speculations of philosophy, and the glowing imagery of poetry, have found in this subject scope for all their powers. The positive results have not been very valuable. Conjecture has been added to uncertainty, and relative expressions in other parts of the sacred record have had doubt cast around them by the efforts of critics, whose minds were prejudiced in favour of certain views of the words now under notice. The chief difficulty is in the question, "Who were the sons of God (*Beni-Elohim*) who thus married the daughters of men (*Benoth-Adam*)?" About one hundred years before the Christian era a view of this passage, which no doubt was floating in the Jewish mind at the time, was advanced by the author of the apocryphal Book of Enoch, which has since then

had many advocates. According to this, the sons of God mentioned here were angels, who had been smitten with the beauty of the fair Cainites:—

> "These are they then
> Who leave the throne of God, to take them wives
> From out the race of Cain; the sons of Heaven,
> Who seek earth's daughters for their beauty."

Josephus was sure to welcome this legend. His reverence for tradition, his superstitious devotion to whatever seemed most marvellous in the history of mankind, and indeed the whole bent of his mind, would lead him to give ready belief to such a view. "In process of time," he says —Antiq. i. 3, 1—"the posterity of Seth were perverted, and forsook the practices of their forefathers, and did neither pay these honours to God which were appointed them, nor had they any concern to do justice towards men. But for what zeal they had formerly shown for virtue, they now showed by their actions a double degree of wickedness, whereby they made God to be their enemy; for many angels of God accompanied with women, and begat sons that proved unjust, and despisers of all that was good, on account of the confidence they had in their own strength, for the tradition is, that these men did what resembled the acts of those whom the Greeks call giants." This view still influences Scripture interpretations, and an appeal is made specially to two passages in its support. These are: 2 Peter ii. 4, 5—"If God spared not the angels that sinned, but cast them down to hell, and delivered them into chains of darkness, to be reserved unto judgment; and spared not the old world, but saved Noah the eighth person, a preacher of righteousness, bringing in the flood on the world of the ungodly;" and Jude 6—"The angels which kept not their first estate, but left their own habitation, he hath reserved in everlasting chains under darkness unto the judgment of the great day." Much stress is laid on these passages as favouring the view that the sons of God were the angels. In answer, it is enough to notice that both Peter and Jude are calling the attention of the New Testament church to the fact, that the introduction of heretical views was leading to immorality even among those who professed to have an interest in "the common salvation," and to have closed with the lavish offers of spiritual blessing held out to them in "the exceeding great and precious promises." Both show that departure from purity of doctrine ever countenances impurity of life—that when once the opinions of men who have been in contact with the true thoughts of God become wrong, their lives will

soon cease to be according to holiness. But the fact of their having had the truth before them sets them in a more perilous position than they would otherwise have been; and both proceed to illustrate this from the history of God's dealings with men. The apostle Peter chooses his first illustration from a belief, which he knew was held by every true Jew—that, namely, of the existence of Satan, as the great personal head of sin, and of the fallen spirits associated with him. This he gives in the words of verse 4. The second illustration is found in God's ways with the antediluvian earth. This is given in the next verse. He finds a third in the case of "Sodom and Gomorrah;" and a fourth in that of "Balaam the son of Bosor" (verses 6–9, 15, 16). These are adduced with the view of setting the truly good on their guard against all who might seek to seduce them from the truth as it had been taught them by the apostles. It is thus unwarrantable to seek to find a reference in verse 4 to the marriages mentioned here.

A little attention to the scope of Jude's short epistle will lead the unbiassed reader to a similar conclusion. The resemblance between verses 3–16 and 2 Peter ii. 1–19, will suggest itself to all. The same tendencies to departure from the mind of Christ in the early church are seen by both. The same holy indignation against "evil men and seducers" animates both. Jude, however, is more impetuous, less observant of chronological order in choosing his illustrations, and in style much more vehement and abrupt than Peter. These peculiarities of mind and style in Jude account for the mention of the deliverance from Egypt before he refers to the "angels which kept not their first estate," and also for the allusion to the prophecy of Enoch, after the statement regarding the body of Moses. But while the orderly sequence in the illustrations is broken, the illustrations themselves are adduced for purposes similar to those which Peter had in view. As a warning against unbelief he tells the church "how that the Lord, having saved the people out of the land of Egypt, afterwards destroyed them that believed not." To teach the people to whom he wrote that apostasy has from the very beginning been hateful to God, and punished by him, he points to the angels "reserved in everlasting chains under darkness unto the judgment of the great day." That they may be on their guard against that impurity which, as a plague, was prevalent in the whole Gentile world, he says Sodom and Gomorrah "are set forth for an example, suffering the vengeance of eternal fire." To show them the daring of that lawlessness which "speaks evil of dignities," breaks off from all restraint, and follows blindly the leading of ruling lusts, he

mentions the fate of Cain, of Balaam, and of Core. And to warn them that judgment, how long soever delayed, is sure to come at last, he refers to the prophecy of "Enoch, the seventh from Adam," which has had a partial fulfilment at every period at which the Lord made known his power against the wicked. Any interpretation, then, which finds an allusion to Genesis vi. 1, in Jude 6, is far-fetched indeed.

But does not the expression "sons of God" (*Beni-Elohim*) demand the recognition of angels in this transaction? A partial and one-sided criticism answers in the affirmative. "The sons of God," it is alleged, are seen from other passages of Holy Writ to be angels. That the angels are thus characterized there can be no doubt; but it is equally certain that men are spoken of as sons of God also. And even could a majority of passages be quoted in favour of the former view, it must be borne in mind that questions of this kind are not to be determined by a majority of texts on the one side or the other. Many other considerations must, in fair criticism, be taken into account—such, for example, as the context in which the difficult verse occurs, our knowledge of God's general dealings with man, if these have any bearing on it, and even the consideration of what, in the view of the enlightened mind, was likely to be the case in the circumstances. The expression is applied to angels in the following passages:—"There was a day when the sons of God came to present themselves before the Lord, and Satan came also among them" (Job i. 6); "The sons of God shouted for joy" (Job xxxviii. 7); "The form of the fourth is like the son of God" (Dan. iii. 25). The first two references undoubtedly point to angels; the last is not so clear, when we look at it as used by a heathen king. Other two passages are adduced in favour of the supposition that "the sons of God" were angels, namely—

> "Give unto the Lord, O ye mighty,
> Give unto the Lord glory and strength."—(Ps. xxix. 1.)

> "For who in heaven can be compared unto the Lord?
> Who among the sons of the mighty can be likened unto the Lord?"
> —(Ps. lxxxix. 7.)

The appeal to these passages is unfortunate. The words "O ye mighty" in the former are literally, "Ye sons of the mighty (*Beni-Elim*)"—the translation of the same expression as that given in the latter from Psalm lxxxix. But the Hebrew phrase is not identical with that used either in Genesis vi. 2, or in Job i. 6. While the word here rendered mighty is employed in the singular to denote the true God

(Ps. v. 4), it is never so used in the plural, in which form it occurs in the verses now quoted. In the plural it is always used either of mighty men or of false gods—deified men (Dan. xi. 36; Exod. xv. 11). The scriptural authority for holding that "the sons of God" here mean angels, is thus exceedingly meagre. The theory that those spoken of as "sons of God" were men, is supported by such passages as Genesis v. 1, in which Adam is said to have been created in the likeness of God (*Elohim*), and Psalm lxxiii. 15, where the godly are expressly called the "generation of God's children." There is, moreover, another class of texts highly suggestive on this point—those, namely, in which men are characterized as the sons of Jehovah (*Beni-Javeh*), to which reference alone may be made, as their close bearing on this subject could only be shown by a detailed examination of the Scripture use of the names, Jehovah and Elohim. This would be out of place here. (See Gen. iv. 25; Exod. iv. 22; Deut. xiv. 1, 2; Isa. i. 2.)

There does not thus appear any valid objection to the view which regards the verse now looked at as intimating that the true children of God—the witnesses to his truth and grace, the men who had believed the promise of a Saviour—were those who "saw that the daughters of men were fair," and who "took them wives of all whom they chose." The very terms of the first promise indicated that it was God's design that the two "seeds" should keep apart. All distinction between the church and the world was now broken down, and God interfered in order to prevent the complete triumph of evil. The use of the expression "sons of God" in New Testament times is here strongly corroborative. Thus Luke ends his genealogical list with the words, "Which was the son of Enos, which was the son of Seth, which was the son of Adam, which was the son of God" (iii. 38); "As many as received him, to them gave he power to become the sons of God, even to them that believe on his name" (John i. 12); "Ye are all the children of God by faith in Christ Jesus" (Gal. iii. 21).

Several other interpretations of this verse have been attempted. Two of them may be noticed. By some the "sons of God" are here regarded as the descendants of Adam, who had attained to rank and power in the antediluvian world, and the "daughters of men" as females lowly born. But this view is manifestly wholly inadequate. By others this passage is made much of, as being thought to warrant the very extravagant notion of another race of men contemporary with Adam—a race whose history has no place in the Bible, which is held to be limited to a chosen people only. Accordingly a new translation of this passage is

offered by the advocates of this theory. "And it came to pass when the ādām, or Adamites, began to multiply on the face of the earth, and daughters were born unto them, that the servants of the gods saw the daughters of the Adamites that they were goodly, and they took them wives of all which they chose" (ver. 1, 2); "The apostates, or fallen ones, were in the earth in those days; and also after that, when the servants of the gods came in unto the daughters of the Adamites, and they bare children to them; these were the mighty ones which of old were men of renown" (ver. 4); "And the Lord said, I will destroy the Adamites whom I have created from the face of the earth" (ver. 7). This rendering being held by its authors to be correct, it is concluded we are here taught—1, That we have historical evidence of the existence of a race of idolaters alongside of the Adamic race; 2, That the apostasy, which was then all but universal, consisted in the daughters of the Adamites forming marriage relationships with a race of idolaters, already accursed; 3, That while the flood was sent upon the descendants of Adam, and those with whom they had contracted marriages, the other idolaters are not to be held as swept away by the deluge; and 4, That the Anakim of the days of Moses were the descendants of the Nephīlim, or giants, of the time of Noah! This translation has evidently been made to suit a theory previously formed. The mode of rendering the words is wholly arbitrary. It is not supported by the well-known principles of the original language, and its application to other passages would lead to great confusion.

Allusion has been made to the *Nephīlim.* In verse 4 this word is translated "giants." The references in this verse have been the cause of much controversy, and thereby they have been surrounded with many difficulties. Who, it is asked, were the Nephīlim? Were they not the offspring of that criminal intercourse between the angels and the daughters of men, believed to be taught in this chapter, erroneously as has been shown—a belief, however, which even Milton held?—

> "Before the flood, thou, with thy lusty crew,
> False-titled sons of God, roaming the earth,
> Cast wanton eyes on the daughters of men,
> And coupled with them, and begot a race."

Were they not the apostate spirits themselves? Are we not to identify them with the mighty men of renown mentioned here also? Much of the mystery implied in these questions vanishes when attention is given to the words of verse 4, taken in the plain meaning which they present

to the unbiassed reader. Two classes are referred to:—1. The giants (*Nephilim*)—"There were giants in the earth in those days;" 2. The mighty ones (*Gibborim*)—"The same became mighty men which were of old men of renown." The statement that there were giants is complete in itself. Having been told this, we are next informed that those were mighty men. There were thus both *Nephilim* and *Gibborim*—both giants and other strong ones. The giants are not affirmed to have been born of the daughters of men who had been united to the sons of God. The strong ones were their children. There is no necessity, either from the tenor of this verse or from the use of the word in other portions of Scripture, for holding that these strong ones were giants. The same word occurs in the singular in Isaiah iii. 2, where it points to eminence as a military leader, and to a type of heroism which is well illustrated by the great captains of modern times. In them the qualities of greatness are moral and intellectual; they do not consist in personal strength and physical prowess. The expression which follows indicates men of the latter stamp—"the mighty man (the hero) and the man of war (the man of personal strength)." It thus appears, first, that the *Nephilim* were men of great stature, distinguished, because of well-marked bodily features, by the name "giants." Scripture usage is clear on this matter. The report of the men who were sent by Moses to spy out the land of Canaan concluded with the words—"And there we saw the giants (*the Nephilim*), the sons of Anak, which come of the giants (*the Nephilim*); and we were in our own sight as grasshoppers, and so were we in their sight" (Num. xiii. 35). The way in which the giants are introduced in the sacred narrative suggests that they were regarded as the wonders of their time, and as comparatively rare among the families of men. The ordinary size of men seems to have been much the same in all time. That this was undoubtedly the case during the earliest periods of history, is seen from the tombs of Egypt. And there is no countenance given here to the popular impression that all the men in antediluvian times were giants. "That there were, in these ancient times before the flood, men of a gigantic size and strength, is a thing very credible, both from later instances in historians both sacred and profane, and modern instances in our own times. But we must not conclude from this, as some have done, that mankind in general were, in the first ages, of a much larger stature than they are at present; though the number of giants seems to have been much greater before the flood than afterwards." It appears, second, that the offspring of the union between the "sons of God" and the "daughters of men" had become

noted, renowned, or notorious for their wickedness, shown in deeds of lawlessness and daring defiance of the holy God. And as this union had become all but universal, the declension from God was general. The "seed" which God had set apart, to show forth the glory of his righteousness and grace in the world, had become limited to one household. In such circumstances "it repented the Lord that he had made man on the earth, and it grieved him at his heart" (ver. 6); and he arose to judgment, "bringing in the flood upon the world of the ungodly" (2 Peter ii. 5); "And the Lord said, My Spirit shall not always strive with man, for that he also is flesh; yet his days shall be an hundred and twenty years" (ver. 3).

Josephus held that the last clause of the third verse intimates that God at this period shortened the duration of man's life. Instead of the longevity enjoyed by them previously, God now, "cutting short their lives, made their years not so many as they formerly lived, but one hundred and twenty only." Several modern biblical critics of great ability and learning have followed the opinion of the Jewish historian. But the interpretation, which assigns the space of one hundred and twenty years to the preparation of the Ark, and, in connection with this, to the exhibition of the testimony to the grace of God before the wicked, is both more natural and more in harmony with other portions of Scripture. "The long-suffering of God waited in the days of Noah while the ark was a preparing" (1 Peter iii. 20). Besides, it is not found that the duration of man's life after the flood was 120 years. Noah himself lived 950, Peleg died at the age of 239, Nahor at the age of 148, Reu at the age of 239, Terah at the age of 205, and Abraham at the age of 175 years. Arphaxhad, the grandchild of Noah, must have survived twelve years after Abraham removed into Canaan; and Shem himself, who died at the age of 600 years, must have lived during fifty years of the life of Abraham's son Isaac. One who had seen the violence of the antediluvian people, who had looked on the Nephīlim, listened to the rehearsal of the daring deeds of the mighty men of renown, who had been in the ark, had looked out on the dark waters of the deluge, and stood under the covenant bow as it lay on those dark clouds which still told of the ruin that had been on the earth, may have twined his aged fingers in the locks of Abraham's children, and told to Isaac, the child of promise, the awful story of the judgment of God against the "world of the ungodly."

In any inquiry into the cause of the longevity of men before the flood, we must, after all theorizing, be satisfied with the acknowledgment of

the fact according to the sovereign purpose of God. So God willed it. The question of the shortening of the period of man's pilgrimage on earth to its present "brief span," must resolve itself into the same confession. The solution has been sought "in an undiminished youthful vigour in the men of the first generations, and a corresponding deeper energy in earthly and natural life generally." The vegetarian believes that the alleged abstinence of the antediluvians from animal food accounts for the whole matter, and he can appeal to physiological facts in proof! Sin and toil have been appealed to as the chief causes of the shortening of life:—"Man was originally intended for an immortal existence; sin brought death upon him; every progress in the career of sin caused a new reduction in the years of his life; toil increased, and the years were again curtailed; the greater the interval which separated man from the happy days of paradise, the shorter grew his life, till it was at last contracted to its present narrow limits, and became comparable to the 'shadow that passes,' or 'the cloud that vanishes,' or 'the dream that disappears.'" It is, however, fatal to all such theories that the systematic, gradual shortening of life demanded by each of them nowhere appears. Even before the flood there was as great a variety in the duration of single lives as there is now. The change was brought about much sooner than such natural causes would have done it. The natural law would be constant in its operation, and the average of the years of the life of man would have long ago been far below what it is at present. The divine interposition would in its general bearings have a direct influence for good on the morality of the world. The evil example of a wicked man will of course be influential so long as he lives; and if his life be brief, his influence for evil will be cut short. If, for instance, the lives of Cain's immediate descendants were as long as those of the children of Seth, which is indeed likely, we can see what power Lamech would have to familiarize his brethren with polygamy first practised by him. Lamech was the fifth from Cain; and if his life were as long as Jared's, the fifth from Seth, his years would be nine hundred and sixty-five.

There is something very grand both in the picture presented to us in the remaining verses, and in the style of the whole narrative. The wickedness of the world serves as the dark background on which the great purpose of grace, seen in the building of the ark and in the salvation of Noah, is brought boldly out. God sees the earth full of violence, and "every imagination of the thoughts of man's heart only evil continually." The strong expressions of verse 6 testify to the

utter depravity of men—"It repented the Lord that he had made him, it grieved him at his heart. And the Lord said, I will destroy man, whom I have created, from the face of the earth; both man and beast, and the creeping thing, and the fowls of the air; for it repenteth me that I have made them. But Noah found grace in the eyes of the Lord" (ver. 6–8).

The word "heart," used in verse 5, is peculiarly expressive. As in most other passages of Scripture in which it occurs, it denotes the whole moral and spiritual man. It includes conscience and consciousness both; will and desire; intellect and emotion; understanding and affection. All this had become depraved; and because of this utter depravity, ruin comes on the whole race of man—yea, even on the beasts of the field, the fowls of the air, and the creeping things. The lower animals are again associated with the spiritual history of man. This subject has already been alluded to, but I reserve its full consideration until we come to consider the words of the Lord to Jonah (Jon. iv. 11).

In the ninth verse we get another glimpse into the life of the Sethites, who still remained faithful. Enoch had walked with God, and the distinguished piety and uprightness of Noah are characterized by the same terms—"Noah was a just man, and perfect in his generations, and Noah walked with God." His righteousness and his singular holiness not only stood out immediately before the flood, but, touching the sinful practices of the generations of men which he saw coming and going in the world, he was blameless. The Lord with whom he walked instructed him in his purpose. "Make thee," he said, "an ark of gopher-wood." And "by faith Noah, being warned of God of things not seen as yet, moved with fear, prepared an ark to the saving of his house" (Heb. xi. 7)—

> "Faithful found
> Among the faithless, faithful only he;
> Among innumerable false, unmov'd,
> Unshaken, unseduc'd, unterrify'd,
> His loyalty he kept, his love, his zeal;
> Nor number, nor example with him wrought
> To swerve from truth, or change his constant mind
> Though single."

The measurement of the ark guides us to a general idea of its shape. It could not, according to the proportions indicated here, be built in the form of a ship. It must have been shaped like a chest, much like that "ark of the tabernacle" which stood within the vail. In size it was

three hundred cubits long, fifty broad, and thirty high—or a total of 450,000 cubits in contents. It was lighted from above by a window, had a door in the side, and consisted of "lower, second, and third stories," which were divided into small compartments, rooms, or, literally, nests. Its timbers were strengthened and made waterproof by being covered on both sides—within and without—with pitch. The material from which it was constructed was gopher-wood. The measure was by cubits. A cubit is equal to the distance from the elbow of a full-grown man to the end of the middle finger—that is, say, one foot nine inches. It consisted thus of two spans, or of six handbreadths—the span being ten and a half, and the handbreadth three and a half inches. Taking, then, the size of the ark according to cubits, and reducing these to English measures, we have 525 feet for its length, 87 feet 6 inches for its breadth, and 52 feet 6 inches for its height. The building of a vessel of this size implied the possession of great mechanical skill on Noah's part. It is, moreover, clear from this that the knowledge of the arts was not confined to the Cainites, and that the descendants of Seth did not limit their energies to the "work and toil of the hands" only in cultivating the ground.

Fig. 76.

Cupressus Sempervirens.

The wood of the ark was gopher-wood, literally *pitch-wood*, or wood yielding resin. The etymology of the word is the only guide we have in attempting to identify this wood. By most it is held that the gopher is the same as one of the well known cypress trees—the *Cupressus sempervirens*, or ever-green cypress, one of the *Coniferæ* or cone-bearing family of trees.

Two things have led to the supposition that the cypress is referred to here. On the one hand, it is held that there is a strong phonetic resemblance between the Greek name for the *cypress* and the Hebrew *gopher*, and, on the other hand, the cypress must have been a common tree in the district in which most likely the ark was constructed, while the well known durability of the timber would probably attract Noah to it. But as this word occurs only in Gen. vi. 14, we must be satisfied with the general supposition, that some one of the Coniferæ is referred

to. Lightness, rather than durability, would be the quality chiefly sought by Noah when he began to build. This, indeed, has led some to believe that Noah's ark may have been of wicker-work, and, like that of the bulrushes in which the infant Moses was laid, made waterproof by being daubed with pitch. But the burden which the vessel was to convey makes this little likely. If much doubt exists as to the gopher-tree, it is said there can be almost none as to the identity of the "fir-tree" (*berosh*) named in other passages of Scripture with the evergreen cypress, represented above. It is still common, as a tree of great beauty, on the mountain sides of Lesser Asia. It formed part of the wood-work of the temple. The following passages are quoted in support of this rendering:—"Hiram told Solomon, I will do all thy desire concerning timber of cedar, and concerning timber of fir" (1 Kings v. 8). The ships of Tyre were formed of this wood: "They have made all thy ship-boards of fir-trees of Shenir" (Ezek. xxvii. 5). Isaiah gives the cypress a place in the bold figures in which he refers to the bringing down of Babylon, "the golden city," and its mighty king: "Yea the fir-trees rejoice at thee, and the cedars of Lebanon, saying, Since thou art laid down, no feller has come up against us" (xiv. 8). He also uses it to indicate the advent of blessing to the church: "Instead of the thorn shall come up the fir-tree, and instead of the brier shall come up the myrtle-tree; and it shall be to the Lord for a name, for an everlasting sign that shall not be cut off" (lv. 13). In another passage it is noted as distinguished for its beauty: "The glory of Lebanon shall come unto thee, the fir-tree, the pine-tree, and the box-tree together, to beautify the place of my sanctuary" (lx. 13). In Isaiah xliv. 14, our translators have rendered the Hebrew word, derived from the root "to be hard"—*tirzah*—by cypress, whereas, the tree pointed to is the evergreen oak (*Quercus ilex*). To retain, it is alleged, "fir-tree" as the translation of *berosh*, would both be inconsistent with the broad distinction which the Scripture writers drew between it and the cedar, when they referred to these trees in the same passage, and would shut us up to a conclusion most unlikely in the circumstances—that the tree which, more than any other, was, with the cedar, "the glory of Lebanon," had not attracted their attention at all. A fuller notice of the Coniferæ will be given under Judges ix. 15. That "fir" is the true rendering of *berosh* will be shown under 1 Kings v. 8, which see.

The material to be used by Noah in careening or calking the ark, was pitch—"Thou shalt pitch it within and without with pitch." Three words are used by the writers of Scripture to express certain kinds of

material, which would answer the purpose of filling up all the crevices in a vessel like the ark. The verse now considered supplies the first—"Thou shalt pitch it with pitch" (*kopher*)—a word interesting also as supplying the root of our verb "cover." The second term occurs in Genesis xi. 3, where the builders of the tower are said to have had used "brick for stone, and slime (*hhemar*) for morter." The other word is used in Exodus ii. 3, in which the action of the mother of Moses is described —"When she could no longer hide him, she took for him an ark of bulrushes, and daubed it with slime and with pitch (*zepheth*), and put the child therein." Can these be identified with anything like certainty? The term *kopher*, or pitch, appears to be used here much in the same way as we use bitumen, to indicate in a general way any kind of pitchy matter. *Hhemar* (slime), and *zepheth* (pitch), point to two kinds of so-called mineral bitumen. The idea that the second kind of bituminous matter, used in smearing the cradle of Moses, was wood tar, is excluded by a passage in Isaiah, where the same word (*zepheth*) is used twice: "And the streams thereof shall be turned into pitch, and the dust thereof into brimstone, and the land thereof shall become burning pitch" (xxxiv. 9). Here the prophet has, no doubt, in view the phenomena associated with the destruction of the cities of the plain. In popular language, we speak of pitch as a mineral substance, just as we do of coal, but both are of organic origin—the former being derived from animal as well as vegetable substances, and the latter being simply mineralized vegetation. The regions which formed the primitive seat of mankind, have from earliest ages been noted for the substance with which the ark was coated. The country lying to the north-west of the Caspian Sea, the vast tracts watered by the rivers of Eden, the Euphrates and Tigris, and the Dead Sea and its neighbourhood, all supply varieties of the *kopher* which Noah was ordered to use. The bitumens may be named thus:—

Naphtha	= pure fluid bitumen.
Petroleum	= oil bitumen, or rock-oil.
Maltha	= shaggy mineral pitch.
Asphalt	= native mineral pitch.
Elaterite	= elastic bitumen.
Retinite	= fossil resin.
Ozokerite	= fossil wax.

Mineral pitch like what is met with at the Dead Sea—Lake Asphaltites—consists chiefly of a substance known to chemists as *asphaltene*, which is composed of the elementary bodies carbon, hydrogen, and oxygen.

Though the bitumens now named are all derived from organic substances, none of them contain any evidences of organic structure. But, by subjecting true coal and some lignites, or wood-coals, to certain processes of distillation, they yield products similar to these natural substances. Some parrot coals yield characteristic materials of great importance and value in the industrial arts—the now well known *paraffin*, for example. The much used wood-tar of commerce is a distillation from roots, gnarled branches, &c., of the highly resinous pines and firs of Northern Europe. The beech yields a tar from which the oil is obtained, which, by frequent processes of distillation, supplies *kreosote*—a body highly valued in the arts. Thus we have two sources whence the *kopher* may be obtained. And while it is in the highest degree probable, that, as used for careening the ark, it was in the form of the natural product—mineral pitch—there is no reason for concluding that the skill equal to building the ark, and providing the means thereto, would not have been equal to the work of preparing the pitch in an artificial way. Indeed, the knowledge which Noah possessed of the mode of making wine from the grape, possessing highly intoxicating qualities, virtually implies this. It is constantly forgotten, that there was nothing miraculous in the construction of such a vessel as the ark. It was a triumph of mechanical skill, much more remarkable at that time, than is the building of that huge vessel which, in our day, is regarded as the wonder of modern naval architecture. The ark, as we have seen, was 525 feet long; the greatest of modern steam-ships is 692 feet in length. The former was 87 feet broad, the latter is 82 feet at the hull, and 120 feet at the paddle boxes. But, taking into account the time and circumstances which accompanied the building of each, the former is certainly the more remarkable. Every fact which supplies even indirect evidence of the great progress of mechanical and industrial art before the flood, is of much interest, because it helps to account for the rapid progress of the same among the immediate descendants of Noah; and the advanced state of Egyptian art, at a very early period in the history of that country, ceases to be a mystery.

The seventeenth verse contains a general statement of the design of the Lord. "And, behold, I, even I, do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life, from under heaven: and every thing that is in the earth shall die." There was, however, an election according to the gracious purpose of God. First, "Noah and his sons, and his wife, and his sons' wives," were to be saved from the wide-spread desolation and destruction, and, second, a

selection was to be made from the lower animals. "And of every living thing of all flesh, two of every sort shalt thou bring into the ark, to keep them alive with thee; they shall be male and female. Of fowls after their kind, and of cattle after their kind, of every creeping thing of the earth after his kind; two of every sort shall come unto thee, to keep them alive." This command, in regard to the beasts, is repeated in the next chapter with two important additions. The beasts are now named as clean and unclean. The former are to be taken by sevens—seven pair; and the latter by twos—one pair.

The distinction between clean and unclean beasts supplies the earliest attempt at the classification of the animal kingdom, of which we have any mention in the history of the world. It is interesting to meet with this first in the Book, whose chief design is to record the history of God's self-manifestation as a God of righteousness and grace. That it occurs in such a book would lead us to expect it would be mixed up with ethical considerations of an important kind. The fact that Abel was in the habit of bringing his lamb to the altar as an offering to the Lord, and that Noah when he left the ark had recourse to an altar and a burnt-offering in giving expression to his thankfulness to God and his faith in the promise, show that the church, from Adam to Noah, was in the habit of offering sacrifices to the Lord. We are distinctly informed that the clean beasts were such as were offered in sacrifice—"And Noah builded an altar unto the Lord, and took of every clean beast, and of every clean fowl, and offered burnt-offerings on the altar" (chap. viii. 20). The moral element in this classification of the lower animals is here associated with their use in the worship of God. The animals used for this purpose were such as were allowed in after times, by special law, to the people for food. No doubt the Levitical arrangement, as we shall see, was mixed up with other moral considerations.

These facts may shed some light on the command to take the clean beasts into the ark by septuples. Thus, according to the command in verse 20, one pair of the clean beasts and fowls was specially set apart for natural purposes—to keep alive the species on the earth; and, according to chap. vii. 2, the remaining six pair were set aside for the worship of God and for a supply of food. Even if we grant that animal food was not in use till after the flood, the importance of this arrangement, and the manifest goodness of God in it, may be seen. One pair would not be sufficient to meet the demands of the household of Noah.

Some critics who quarrel with the plenary inspiration of Scripture, have pointed to the difference between chapters vi. and vii., in regard

to the creatures that were to be taken into the ark, as irreconcilable. But the statements of the former deal only with the arrangements regarding the preservation of species, while those of the latter embrace this provision, along with the implied use of the other pairs for religious and economical purposes. Accordingly, when reference is again made to the preservation of species in chapter vii., there is a return to the modes of expression used before (ver. 14–16).

The capacity of the ark to contain the animals to be lodged in it, raises the question—was the deluge limited or universal—was it confined to a certain locality, or did it cover the whole surface of the earth? That the flood was universal, is the popular view of the subject, and indeed, until a very recent period, was the view generally held. In examining this question, it should be clearly understood, that whatever might be the apparent weight of objections alleged on scientific grounds, these could not be consistently accepted by any believer in the Bible as the inspired word of God, if its statements, when fairly rendered, absolutely shut us up to a view antagonistic to the scientific interpretation of certain alleged facts. And his attitude would need to be one, not of opposition to science, but rather of encouragement to more extended observation and deeper research. In the question now under notice there is no such necessity as this, for there is really no contradiction between the words of Moses and the testimony of science. I propose to look, *first*, at some of the reasons urged against the probability of a universal deluge, and, *second*, at the words of the Mosaic narrative, which have been held to warrant the belief that the flood did not cover all the dry land in the world.

1. Very absurd views of the influence of the Noachian deluge on the physical features of the earth, have long been entertained by that class of biblical critics who look only at the verbal text of Scripture; whose studies are mere word-criticism, and who steadily refuse to entertain any of the findings of science, which are in advance of those current when, in youth, they were forming their notions of the relations between the Bible and Science. Theological works might be named, published within the last ten years, which contain all the exploded notions as to the fossiliferous strata having been deposited at the time of the flood; whose authors cling to the diluvial theory of Buckland, as conclusive proof that the drift beds of northern latitudes are indubitable marks of the deluge; and who hold that the whole number of species of living creatures on the earth, continues precisely the same as it was when determined by Bishop Wilkins or fixed by Dr. Hales. In 1826 the late

Professor Fleming reviewed in several papers of great acuteness and ability, the diluvial views of Buckland and others. In these papers, published in the *Edinburgh Philosophical Journal*, Fleming showed that the phenomena of the drift and associated beds, could never have been caused by such a catastrophe as the Noachian deluge. This divergence on the part of Fleming from old beliefs, led very speedily to a much more enlarged and satisfactory examination of the whole question. With perhaps one exception, the late Professor Jameson, all true geologists were soon compelled to relinquish the theory that the superficial deposits had been laid down by the action of the flood of Noah. Dr. Buckland himself was among the first to give up this notion, and to throw back the period represented by the drift to pre-adamic times. "It has," he says, "been justly argued, against the attempt to identify these two great historical and natural phenomena, that as the rise and fall of the waters of the Mosaic deluge are described to have been gradual, and of short duration, they would have produced comparatively little change on the surface of the country they overflowed. The large preponderance of extinct species among the animals we find in caves and in superficial deposits of diluvium, and the non-discovery of human bones along with them, afford other strong reasons for referring these species to a period anterior to the creation of man." Professor Sedgwick also, when speaking of the phenomena presented in the drift deposits, and their alleged bearing on geological proofs of the universality of the deluge, says—"It was, indeed, a most unwarranted conclusion, when we assumed the contemporaneity of all the superficial gravel on the earth. We saw the clearest traces of diluvial action, and we had, in our sacred histories, the record of a general deluge. On this double testimony it was, that we gave a unity to a vast succession of phenomena, not one of which we perfectly comprehended, and under the name diluvium, classed them altogether. Our errors were natural, and of the same kind which led many excellent observers of a former century, to refer all the secondary formations of geology to the Noachian deluge." The question of the accommodation of the ark would be easily enough got quit of, if the number of species could be reduced as has often been attempted. "Bishop Wilkins has brought their number, which at first view may seem almost infinite, within very moderate bounds. He reckons that they do not amount to one hundred of quadrupeds, and two hundred of birds; and of these must be excepted such as live in the water, such as proceed from a mixture of different species, and such as change their colour, size, and shape, by

changing their climate, and thence, in different countries, seem to be of different species, when they are not." And when Dr. Hales turns to this difficulty he says, in regard to the ark—"Can we doubt of its being sufficient to contain eight persons, and about two hundred or two hundred and fifty pair of four-footed animals; a number to which, according to Buffon, all the various distinct species may be reduced, together with all the subsistence necessary for a twelvemonth." An old poet gets over the difficulties in a very summary way:—

"If I but exclude
Out of this vessell a vast multitude
Of since-born mongrels, that derive their birth
From monstrous medly of Venerian mirth;
Fantastik Mules, and Spotted Leopards,
Of incest-heat ingendered afterwards;
So many sorts of Dogs, of Cocks, and Doves,
Since, dayly sprung from strange and mingled loves,
Wherein from time to time in various sort,
Dedalian nature seems her to disport:
If playner, yet I prove you space by space,
And foot by foot that all this ample place
By subtile judgement made and symmetrie,
Might lodge so many creatures handsomly
Sith every brace was geometricall!"

But the numbers have been greatly increased since the time when Buffon gave the rough and hasty guess, which has been made so much of by some theologians. The following calculations come much nearer the actual number of species for which accommodation would have been required in the ark:—

Quadrupeds,	2000 species.
Birds,	6000 "
Reptiles,	2000 "
Land Mollusca,	4600 "
Insects,	60,000 "

The difficulty is insuperable, even though much latitude should be allowed in the direction taken by the able and worthy John Brown of Haddington in his "Dictionary of the Bible." "Very possibly," he says, with almost enviable simplicity, "many of the serpents might live under the water, in an inactive and torpid state; and if so, there is no need to suppose such serpents, as are peculiar to America, to have been in the ark: or, if they were there, the places about Chaldea might then produce them, though now they do not!" Not a whit more satisfactory are the views

of Dr. Kitto. It would occupy too much space to examine these. He pleads for a universal deluge, chiefly on grounds of verbal interpretation; but any appeals he makes to natural science are most unsatisfactory. His view of the meaning of the words used by the inspired historian does not appear warranted, when we compare them with the use made of them in other parts of Scripture.

2. Such, generally, are the chief scientific objections to the universality of the deluge. The quarters from which they draw their strength, require to be looked at a little more in detail. There is no reason why any sincere and implicit believer of the exact words of the sacred narrative, should not be thoroughly familiar with the objections in their most formidable aspects. When every intelligent geologist began to see that the drift beds could no longer be associated with the occurrence of the Noachian deluge, the question was raised, have we any traces at all of that terrible catastrophe? It appears to have been felt by all physico-theologians, that a universal flood would have necessarily demanded the action of such tremendous forces over the whole surface of the earth, as assuredly would have left traces of their presence everywhere. But, as the study of surface geology extended, and as man gathered information from wider areas than hitherto, it was found that the deposits which had been linked up with the flood, and which were known as boulder clays, drift, stratified sands and gravels, mammaliferous crag, &c., were not world-wide. "It is," says Mr. H. Miller, "a very significant fact in its bearings on the diluvial controversy, that it is in the higher latitudes in both hemispheres that these peculiar deposits are chiefly to be found. They have been traced in Patagonia in the one hemisphere, from the southern limits of the country to the forty-first degree of south latitude; and in Europe in the other, to the fortieth; and in America to even the thirty-eighth degree of north latitude. But in the great belt, nearly eighty degrees in breadth, which, encircling the globe from east to west, includes with the torrid the warmer portions of the temperate zones, they have scarce any existence at all, or exist at least in different forms and exceedingly reduced proportions. The superficial deposits, in their most characteristic conditions, are deposits of the colder portions of the globe, and in many parts indicate that there prevailed during their formation a much severer climate than now obtains in the regions in which they occur." The relative position of these superficial deposits is also suggestive. A glance at them as they may be seen in any locality in which they are specially developed, will be sufficient to convince us that they had not been laid down by the action of one flood.

They occur in well-marked beds, and may be described as older and newer, as lower and upper. There is, moreover, conclusive proof that the drift had been deposited in connection with glacier action, and not with that of water. The boulders which are met with in certain beds, and the markings, or *striæ*, which they have left on the surface of the rocks along which they were borne by the motion of the glacier, point to ice as the chief agency.

When we turn from physical geology to palæontology, objections even more formidable meet us. The remains of animals which are found imbedded, for example, in the mammaliferous crag, occur in such circumstances as testify that they had lived, as species, throughout the period represented by that deposit. These are also all remains of extinct animals. But the Scripture account implies that the species of animals existing at the flood, were preserved by the special arrangements of God.

3. The objections to a universal deluge are now, almost generally, acknowledged to be of such a formidable kind as to demand a close reconsideration of the text of Scripture in which it is described. Do the words of Moses shut us up to the conviction, that the flood is represented in Genesis as having been universal? We are not to forget, in seeking an answer to this question, the object for which the waters were sent on the earth. This was for the destruction of the world of the ungodly. The object would thus be accomplished if the waters spread over all the tracts of which man had taken possession. But it is here asked—Is it not highly probable, that in the last years of the antediluvian world, the race must have been very numerous and wide-spread? Burnet estimates the population at ten thousand millions. Would then any catastrophe, limited to the region of Western Asia, accomplish the end in view? There is really, however, very little, if any, foundation in Scripture for the impression contained in these queries. The great ages to which the antediluvians attained, do not warrant the conclusion that they must have had larger families than men now have, when the years of man's life are so much fewer. Lamech, the fifth from Cain, had only four children by his two wives—Jabal, Jubal, Tubal-cain, and their sister Naamah. Noah also had only three sons—Shem, Ham, and Japheth. Nothing appears in the Scripture narrative to warrant the assumption, that the population of the world at the time of the flood, could not have found room in the regions of Western Asia, generally referred to as the primitive seat of the human family.

If the words of the Bible present greater difficulties to a belief in the local and limited character of the flood, they do so by not being regarded in the light of other portions of the Word of God in which they also occur. The expressions which have been held to demand the acknowledgment of a universal deluge are these:—"I bring a flood of waters on the earth, to destroy all flesh from under heaven, and every thing that is in the earth shall die" (vi. 17); "Every living substance that I have made will I destroy from off the face of the earth" (vii. 4); "And the waters prevailed exceedingly upon the earth; and all the high hills, that were under the whole heaven, were covered" (vii. 19). The first thing to be looked at in examining these verses, is, I repeat, the general end in view in sending this judgment on the world. It was not the destruction of the earth as it then was. It was not even to obliterate the existing well-marked physical features of the regions in the midst of which Noah and his family lived. Moses describes the rivers of Eden as rising in the same locality, and pursuing the same course in his day as they had done in the days of Adam. There were even spots in which the olive trees had not been uprooted by the cataclysm (viii. 11). These facts have been universally overlooked in attempts to find traces of great disturbance and physical change—which must have taken place in comparatively recent times in the countries first occupied by man—with the view of illustrating the nature of the deluge. God's design was to destroy the wicked; and as only in the household of Noah were any to be found faithful to him, that household is preserved. We are clearly shown that this was what stood out in the minds of the Scripture writers when any of them referred to the flood: "bringing in the flood on the world of the ungodly," are the suggestive words of Peter. This is the tale told here likewise. "I will destroy man whom I have created from the face of the earth" (vi. 7). And not man only, but "both man and beast, and the creeping thing, and the fowl of the air; for it repenteth me that I have made them." The latter part of this verse appears to warrant the inference that the lower animals to be destroyed were such as were in that region associated with man, either by neighbourhood or by their ministering to his wants, tastes, and comforts. This relation will be more fully considered afterwards. Meanwhile it is sufficient to remark, that we have several testimonies to this as a principle in the moral government of God. He deals with the beasts that perish in the same way as with man, with whom they are associated. The vivid illustration seen in the case of Achan will occur to most. "And Joshua and all Israel with him, took Achan the

son of Zerah, and the silver, and the garment, and the wedge of gold, and his sons, and his daughters, and his oxen, and his asses, and his sheep, and his tent, and all that he had; and they brought them unto the valley of Achor. And Joshua said, Why hast thou troubled us? the Lord shall trouble thee this day. And all Israel stoned him with stones, and burned them with fire, after they had stoned them with stones" (Josh. vii. 24, 25). The sacred narrative warrants the conclusion, that if the Noachian deluge destroyed man and the lower animals associated with him, it virtually accomplished all for which it was designed.

The other expressions—"face of the earth," "face of all the earth," and "under the whole heaven"—must be regarded in the light of Scripture usage. Both in the Hebrew and Greek languages the words rendered in English "all" and "whole" very commonly mean only "many," or "a great quantity." In Professor Hitchcock's able and judicious review of the question of the deluge, the following examples are given:—"In Genesis it is said that 'all countries came into Egypt to Joseph to buy corn, because the famine was sore in all lands.' This certainly could apply only to the well-known countries around Egypt; for transportation would have been impossible to the remotest parts of the habitable globe. In the account of the plagues that came upon Egypt, it is said that 'the hail smote every herb of the field, and brake every tree of the field;' but in a few days afterwards it is said of the locusts, that 'they did eat every herb of the land and all the fruit of the trees which the hail had left.' 'This day,' said God to the Israelites, while yet in their journeyings, 'will I begin to put the fear of thee and the dread of thee upon the face of the nations under all the heavens.' But it is obvious that only the nations contiguous to the Israelites, chiefly the Canaanites, are here meant. In the New Testament it is said that, at the time of the Pentecost, there were dwelling at Jerusalem 'Jews, devout men, out of every nation under heaven.' Yet in the enumeration which follows this passage, of the different places from which those Jews had come, we find only a region extending from Italy to Persia, and from Egypt to the Black Sea. It could have been a district of only about that size which Paul meant, when he said to the Colossians that 'the gospel was preached to every creature which is under heaven.' In the First Book of Kings, it is said that 'all the earth sought the presence of Solomon to hear his wisdom'—a passage which requires as much limitation as the others above quoted. A similar mode of expression is employed by Christ, when he says of the

queen of Sheba, that 'she came from the uttermost parts of the earth to hear the wisdom of Solomon;' for her residence, being probably on the Arabian Gulf, could not have been more than twelve or fourteen hundred miles from Jerusalem. A like figurative mode of speech is employed in the description of Peter's vision, in which he saw a great sheet let down to the earth, 'wherein were all manner of four-footed beasts of the earth, and wild beasts, and creeping things, and fowls of the air.' Who will suppose, since it is wholly unnecessary for the object, which was to convince Peter that the Mosaic distinction into clean and unclean beasts was abolished, that he here had a vision of all the species of terrestrial vertebral animals on the globe? It would be easy to multiply similar passages. In many of them we should find that the phrase *all the earth* signifies the land of Palestine; in a few, the Chaldean empire; and in one, that of Alexander of Macedon."

It is clear, then, that we are not shut up by the Mosaic account to the acknowledgment of a universal deluge. But when we weigh fully the difficulties bearing on the capacity of the ark to receive even representative pairs only of all the lower animals, on the natures of those which on such a supposition would have had to be lodged there, on their being brought from most distant regions for this purpose; and difficulties also bearing on the geological questions which the theory of a universal deluge must raise, we are necessarily compelled to entertain the belief that the Noachian flood was limited and not universal in its effects. The accomplished biblical scholar, Matthew Poole, in his comments on Genesis vii., put this question in a striking light, at a time when he would have few to sympathize with his views. He says—"It is not to be supposed that the entire globe of the earth was covered with water. Where was the need of overwhelming those regions in which there were no human beings? It would be highly unreasonable to suppose that mankind had so increased before the deluge as to have penetrated to all the corners of the earth. It is, indeed, not probable that they had extended themselves beyond the limits of Syria and Mesopotamia. Absurd it would be to affirm that the effects of the punishment inflicted upon men alone, applied to places in which there were no men. If, then, we should entertain the belief that not so much as the hundredth part of the globe was overspread with water, still the deluge would be universal, because the extirpation took effect upon all the part of the globe which was inhabited. If we take this ground, the difficulties which some have raised about

the deluge fall away, as inapplicable and mere cavils; and irreligious persons have no reason left them for doubting the truth of the Holy Scriptures."

The probable operation of miraculous agency in this catastrophe has been much discussed. It has been held highly unphilosophical to call in miracles where the language points so directly to natural causes. But it is forgotten that really in all the miracles recorded in the Scripture much use is made of nature and natural laws. The instincts of the vermin sent as plagues on the Egyptians were used when, by miracle, the living creatures themselves were brought. In all of them no doubt that which is above nature stands distinctly out. But how close we often find the action of the natural law and the supernatural manifestation of control over that law! This is well shown in Exodus xiv. 21–22, in regard to the passage of the Red Sea—"And Moses stretched out his hand over the sea; and the Lord caused the sea to go back by a strong east wind all that night, and made the sea dry land, and the waters were divided. And the children of Israel went into the midst of the sea upon the dry ground: and the waters were a wall unto them on their right hand, and on their left." And so here. It is impossible to read the account of the flood without feeling that he who is "mighty in working" is specially present, guiding natural forces, and developing them to an extent which does not meet us in their usual action. But this acknowledgment does not shut us up to the alternative of "all miracle, or no miracle." The purely natural and that which is above nature stand together in complete harmony. The latter comes before us in this passage foreseeing the flood, and determining that it shall come upon the earth; and the former in the action of certain laws to the carrying out of the divine purpose. The whole revelation of God to man proceeds on this principle. The very existence of the Bible is a testimony to it; and we are to expect everywhere in that book evidences of the miraculous working of Jehovah linked up with that which is properly held to be within the reach of man's power, and within the scope of those well-known forces which men have agreed to call "the laws of nature." It may thus be taken as a rule in biblical interpretation never to look for miracle where facts and phenomena can be explained by well-known laws, and never to refuse a testimony to the presence of miraculous manifestation merely because it may be alleged to be in cases and for ends that seem to some unworthy of the direct interference of the great and eternal God. There is not the least ground for fear that, in holding this attitude, we shall either encourage super-

stition or interfere with the application of free and independent thought to the narrative of God's ways with man. While, then, we acknowledge the action of what is above nature on the very threshold of the Scripture account of the deluge, we are not thereby hindered from looking at all the geological questions which men have raised alongside of this account. The building of the ark suggests the subject of man's knowledge of mechanical art in antediluvian times. And the mode of preserving the animals is so manifestly associated with the capacity of the ark, with the stowage room for food, and the like, that we may fairly apply all our skill to the examination of these things in connection with the number of species on the earth. So likewise, when we have come to the conclusion that the deluge was local and limited, we may without blame speculate in regard to the territory to which it was most likely confined, and on the agencies which might be brought into active power in order to the complete inundation of that region. But here, it should be seen, we get again into the sphere of the supernatural. Because, even with the fullest acknowledgment of volcanic action and the exaggerated influence of natural causes, when we look at the narrative and read, first, the warning given one hundred and twenty years before the judgment came, and then, second, the solemn intimation, "Yet seven days, and I will cause it to rain upon the earth," we cannot escape the recognition of the direct presence of the Almighty God himself. We get a glimpse into the invisible world, and see Him controlling these natural forces until the very hour shall have come when his righteousness and justice are to be vindicated, by the terrible catastrophe which was to fall on the world of the ungodly.

Prominence is given to this view of the close relation, if not even the interaction, between the so-called natural and supernatural, both because its presence is implied in the existence of the Bible as a direct revelation from God, and because it seems to be thought by many that the more you can exclude this direct interference of the Creator with his works, the more you honour him. But there is no antagonism between the ready acknowledgment of his special and direct interference, and the highest testimony that can otherwise be given to the constancy and regularity of the laws of nature. Be those great breaks in the uniform action of law, and those occasional grand manifestations of the presence of a sovereign ruler over the world what they may, we have full cause for the belief that they are not wayward manifestations of an absolute Will merely, but the fruits of the paternal government of the world.

And even in the fullest view of them we can accept the words of the poet—

> "Has not God
> Still wrought by means since first he made the world?
> And did he not of old employ his means
> To drown it? What is His creation less
> Than a capacious reservoir of means,
> Formed for his use, and ready at his will?"

Professor Sedgwick, in his work on the "Geology of the Lake District," early indicated the direction which theories on the region covered by the flood were likely to take. He says (p. 14)—"If we have the clearest proofs of great oscillations of sea level, and have a right to make use of them, while we seek to explain some of the latest phenomena of geology, may we not reasonably suppose that, within the period of human history, similar oscillations have taken place in those parts of Asia which were the cradle of our race, and may have produced that destruction among the early families of men which is described in our sacred books, and of which so many traditions have been brought down to us through all the streams of authentic history?" Dr. Pye Smith, whose writings have had great influence for good in the important physico-theological discussions of the present century, has indicated what appeared to him the likely locality; and he adds—"It must not be forgotten that six weeks of continued rain would not give an amount of water forty times that which fell on the first or on a subsequent day; for evaporation would be continually carrying up the water, to be condensed and to fall again: so that the same mass of water would return many times. If, then, in addition to the tremendous amount of rain, we suppose an elevation of the Persian and Indian Seas, or a subsidence of the inhabited land toward the south, we shall have sufficient causes, in the hand of Almighty justice, for submerging the district, covering its hills, and destroying all living beings within its limits except those whom Divine mercy preserved in the ark. The draining off of the waters would be effected by a return of the bed of the sea to a lower level, or by the elevation of some tracts of land, which would have channels or slopes for the larger part of the water to flow back into the Indian Ocean, while the lower part remained a great lake, or an inland sea, the Caspian."

Perhaps, however, the theory of Mr. Hugh Miller, which to the strongest points of that given by Dr. Pye Smith adds several others of much interest, is most worthy of attention by such as like to speculate

on this matter. "There is," he says, "a remarkable portion of the globe, chiefly in the Asiatic continent, though it extends into Europe, and which is nearly equal to all Europe in area, whose rivers do not fall into the ocean, or into any of the many seas which communicate with it. They are, on the contrary, all *turned inwards*, if I may so express myself, losing themselves, in the eastern parts of the tract, in the lakes of a rainless district, in which they supply but the waste of evaporation, and falling, in the western parts, into seas such as the Caspian and the Aral. In this region there are extensive districts still under the level of the ocean. The shore line of the Caspian, for instance, is rather more than eighty-three feet beneath that of the Black Sea; and some of the great flat steppes which spread out around it, such as what is known as the Steppe of Astracan, have a mean level of about thirty feet beneath that of the Baltic. Were there a trench-like strip of country that communicated between the Caspian and the Gulf of Finland to be depressed beneath the level of the latter sea, it would *so open up the fountains of the great deep* as to lay under water an extensive and populous region, containing the cities of Astracan and Astrabad, and many other towns and villages. Nor is it unworthy of remark, surely, that one of the depressed steppes of this peculiar region is known as the 'Low Steppe of the Caucasus,' and forms no inconsiderable portion of the great recognized centre of the human family. The Mount Ararat on which, according to many of our commentators, the ark rested, rises immediately on the western edge of the great hollow; the Mount Ararat selected as the scene of that event by Sir Walter Raleigh, certainly not without some show of reason, lies far within it. Vast plains, white with salt, and charged with sea-shells, show that the Caspian Sea was at no distant period greatly more extensive than it is now. In an outer region, which includes the vast desert of Khiva, shells also abound; but they seem to belong, as a group, rather to some of the later Tertiary eras than to the recent period. It is quite possible, however, that—as on parts of the western shores of our own country, where recent marine deposits lie over marine deposits of the Pleistocene age, while a terrestrial deposit, representative of an intervening paroxysm of upheaval, lies between—it is possible, I say, that in this depressed area, the region covered of old by a Tertiary sea, which we know united the Sea of Aral with the Caspian, and rolled over many a wide steppe and vast plain, may have been again covered for a brief period (after ages of upheaval) by the breaking in of the great deep during that season of judgment when, with the exception of one family, the whole

human race was destroyed." It seems confirmatory of this view, that during even the historic period at least one of the neighbouring inland seas, though it belongs to a different system from that of the Caspian and the Aral, covered a vastly greater area than it does now—a consequence, apparently, of a more considerable depression in the Caucasian region than at present exists. Herodotus, as quoted by Cuvier in his "Theory of the Earth," represents the Sea of Azoff as equal in extent to the Euxine.

With the known facts, then, regarding this depressed Asiatic region before us, let us see whether we cannot originate a theory of the deluge free from at least the palpable monstrosities of the older ones. Let us suppose that the human family, still amounting to several millions, though greatly reduced by exterminating wars and exhausting vices, were congregated in that tract of country which, extending eastwards from the modern Ararat to far beyond the Sea of Aral, includes the original Caucasian centre of the race—let us suppose that, the hour of judgment having at length arrived, the land began gradually to sink, as the tract in the southern part of North America, known as the "sunk country," sank in the year 1821—farther, let us suppose that the depression took place slowly and equably for forty days together, at the rate of about four hundred feet per day (a rate not twice greater than that at which the tide rises in the Straits of Magellan), and which would have rendered itself apparent as but a persistent inward flowing of the sea—let us yet farther suppose that from mayhap some volcanic outburst coincident with the depression, and an effect of the same deep-seated cause, the atmosphere was so affected, that heavy drenching rains continued to descend during the whole time, and that, though they could contribute but little to the actual volume of the flood (at most only some five or six inches per day), they at least *seemed* to constitute one of its main causes, and added greatly to its terrors by swelling the rivers and rushing downwards in torrents from the hills. The depression, which, by extending to the Euxine Sea and the Persian Gulf on the one hand, and to the Gulf of Finland on the other, would open up by three separate channels the fountains of the great deep, and which included, let us suppose, an area of about two thousand miles each way, would, at the end of the fortieth day, be sunk in its centre to the depth of sixteen thousand feet—a depth sufficiently profound to bury the loftiest mountains of the district; and yet, having a gradient of declination of but sixteen feet per mile, the contour of its hills and plains would remain apparently what they had been before—the doomed inhabitants

would see but the water rising along the mountain sides, and one refuge after another swept away, till the last witness of the scene would have perished, and the last hill-top would have disappeared. And when, after a hundred and fifty days had come and gone, the depressed hollow would have begun slowly to rise—and when, after the fifth month had passed, the ark would have grounded on the summit of Mount Ararat—all that could have been seen from the upper window of the vessel would be simply a boundless sea, roughened by tides, now flowing outwards, with a reversed course, towards the distant ocean, by the three great outlets which, during the period of depression, had given access to the waters. Noah would of course see that "the fountains of the deep were stopped," and "the waters returning from off the earth continually;" but whether the deluge had been partial or universal, he could neither see nor know. His prospect in either case would have been equally that described by the poet Bowles:—

"The mighty ark
Rests upon Ararat; but nought around
Its inmates can behold, save o'er the expanse
Of boundless waters the sun's orient orb
Stretching the hull's long shadow, or the moon
In silence through the silver-curtained clouds
Sailing as she herself were lost, and left
In hollow loneliness."

After the preceding pages were printed I obtained a copy of Bishop Colenso's work, "The Pentateuch and Book of Joshua Critically Examined" (1862). Bishop Colenso has felt himself constrained by deep conscientious convictions to make his views known on the questions of vital moment handled in that book. So far he will have the sympathy of all who, like him, have at any time known what it is to "yearn for the light," and who, unlike him, have entered it and can say with one to whom such yearnings were not strangers—

"In thy light shall we see light."—(Ps. xxxvi. 9.)

But sympathy will not follow him farther. Sad thoughts must steal over every lover of truth as he reads Bishop Colenso's work. Old errors are raised up out of graves in which it was hoped they had been buried out of sight for ever. Difficulties are paraded as if they had been discovered for the first time; whereas they have again and again been removed out of the way. Objections to the historical accuracy of the Five Books of Moses are stated, which biblical scholars never expected

would again, like dark shadows on sunlight, be thrust on their attention as demanding a patient hearing. We had begun to think that some progress had been made in clearing away the rubbish thrown by unfriendly hands around the Temple of Truth. But thoughtful men will be apt to think they have been deceived. It has been with these discussions as with the door on its hinges: there has been motion, but no progress. Nevertheless, something has been done on the side of truth.

The following extract is given from this work that the reader may consider it in the light of the foregoing pages, which were written before it was heard of:—"While translating the story of the flood, I have heard a simple-minded, but intelligent native—one with the docility of a child, but the reasoning powers of mature age—look up, and ask, 'Is all that true? Do you really believe that all this happened thus—that all the beasts, and birds, and creeping things upon the earth, large and small, from hot countries and cold, came thus by pairs, and entered into the ark with Noah? And did Noah gather food for them *all*, for the beasts and birds of prey, as well as the rest?' My heart answered in the words of the prophet, 'Shall a man speak lies in the name of the Lord?' (Zech. xiii. 3). I dared not do so. My own knowledge of some branches of science, of geology in particular, had been much increased since I left England; and I now knew for certain, on geological grounds, a fact of which I had only had misgivings before, viz., that a *universal* deluge, such as the Bible manifestly speaks of, could not possibly have taken place in the way described in the book of Genesis, not to mention other difficulties which the story contains. I refer especially to the circumstance, well known to all geologists (see Lyell's 'Elementary Geology,' pp. 197, 198), that volcanic hills exist of immense extent in Auvergne and Languedoc, which must have been formed ages before the Noachian deluge, and which are covered with light and loose substances, pumice-stone, &c., that must have been swept away by a flood, but do not exhibit the slightest sign of having ever been so disturbed. Of course I am well aware that some have attempted to show that Noah's deluge was only a *partial* one; but such attempts have ever seemed to me to be made in the very teeth of the Scripture statements, which are as plain and explicit as words can possibly be. Nor is anything really gained by supposing the deluge to have been partial. For, as waters must find their own level on the earth's surface, without a special miracle, of which the Bible says nothing, a flood, which should begin by covering the top of Ararat (if that were conceivable), or a much lower mountain, must necessarily become universal, and in due

time sweep over the hills of Auvergne. Knowing this, I felt that I dared not, as a servant of the God of Truth, urge my brother man to believe that which I did not myself believe, which I knew to be untrue as a matter-of-fact, historical narrative. I gave him, however, such a reply as satisfied him for the time, without throwing any discredit upon the general veracity of the Bible history" (pp. 7, 8).

This query of the Zulu, one of a tribe noted for their intellectual quickness, put to a representative of British attainments in the nineteenth century, calls to mind the question of the poet—

> "The friendly and flowing savage, who is he?
> Is he waiting for civilization, or past it and mastering it?"

In this case, certainly, mastering it. The bishop believes that the theory of a partial deluge is in the teeth of the statements of Scripture. But it has been shown above that this is not the case. The words used in the narrative of the flood which seem to demand the recognition of a universal deluge, have been exhibited as in complete harmony with their use in other portions of the Bible, in which "all" and "whole" must mean "some." Let us try this author's method on a passage which has not yet been referred to. In Mark i. 5, we have the statement in regard to the multitudes who flocked to the wilderness to hear John "preach the baptism of repentance for the remission of sins," that "there went out unto him all the land of Judæa." On this the bishop might remark—"When translating this passage, an intelligent native, looking me fully in the face, asked, 'Do Christians really believe that *all* the people of Judæa went out into the wilderness?' The question startled me a good deal. I had been brought up in the belief that *all* Judæa went out. I now, however, began to see the impossibility of this. My faith in long-cherished convictions was shaken. But for the sake of this simple-minded Zulu, I did not push the matter farther at that time. Since then I have anxiously studied the question, and have, against my will, come to the conclusion, that the statement is false. This has completely destroyed my confidence in the historic truthfulness of the whole narrative which goes by the name of Mark's Gospel!"

The allusion to the geological difficulty is in keeping with this. He speaks with great satisfaction of having made some progress in geology since he went to the Colonies. If the specimen of attainments given here is good, he is thankful for little. The hypothesis of oscillations in the level of the districts over which the flood spread according to the

partial theory, remove the objection as to the volcanic cones of the West. A temporary depression, like that acknowledged above, would confine the waters to the area indicated. Such oscillations every student of physical geology knows have been of frequent occurrence in other districts. Sir Charles Lyell, whose great work Dr. Colenso names, would be among the first to acknowledge this. Thus he says, with reference to the phenomena in the valley of the Somme, which have recently been much discussed—"To explain these changes, I should infer considerable oscillations in the level of the land in that part of France—slow movements of upheaval and subsidence, deranging but not wholly displacing the course of the ancient rivers."

GENESIS VIII.

AS the one hundred and twenty years of grace drew to a close, the wicked world ripened for judgment. Those who should have witnessed a good confession for God, allied themselves with the ungodly and became as they were; the earth was filled with violence, and "all flesh had corrupted his way upon the earth." The long-suffering of Jehovah is well-nigh spent, and a week before the final ruin arrives, "the Lord said unto Noah, Come thou and all thy house into the ark; for yet seven days, and I will cause it to rain upon the earth. And Noah went in, and his sons, and his wife, and his sons' wives with him into the ark." "And it came to pass on the seventh day the waters of the flood were upon the earth. The rain was upon the earth forty days and forty nights. The waters increased and bare up the ark, and it was lifted above the earth. The high hills were covered; all flesh died that moved upon the earth; every living substance was destroyed; and the waters prevailed upon the earth an hundred and fifty days." But "God remembered Noah and every living thing that was with him in the ark. A wind passed over the earth and the waters asswaged; the fountains of the deep and the windows of heaven were stopped. And the ark rested in the seventh month, on the seventeenth day of the month, upon the mountains of Ararat. In the tenth month, on the first day of the month, were the tops of the mountains seen. And at the end of forty days Noah sent forth a raven which went to and fro until the waters were dried up. Also he sent forth a dove to see if the waters were abated from off the face of the ground. But the dove found no rest for the sole of her foot, and she returned unto him into the ark. He stayed yet seven days, and again he sent forth the dove, and it came to him in the evening, and in her mouth was an olive leaf plucked off; so Noah knew that the waters were abated from off the earth. He stayed yet other seven days and sent forth the dove, which returned not again to him any more. And Noah removed the covering of the ark; and looked, and behold, the face of the ground was dry. And God spake unto Noah, saying, Go forth of the ark, thou, and thy wife, and thy sons, and thy sons' wives with thee. And Noah went forth, and builded an

altar unto the Lord, and offered burnt-offerings on the altar." Such, in brief, is the narrative of the Noachian deluge, told in the simple grandeur of the words of Scripture.

"The ark rested upon the mountains of Ararat" (ver. 4). There is no foundation in the Bible for the belief, that the ark rested on the top of the lofty mountain known in modern times by the name of Ararat. Josephus copied, from some older writers, the popular tradition of the particular place where the ark first touched the dry land when the waters began to abate. "The ark," says the Jewish historian, "rested on the top of a certain mountain in Armenia." And he proceeds to tell us that the "Armenians continued even in his day to call the mountain 'Apobaterion,' or the place of descent; that Berosus the Chaldean when describing the flood goes on thus:—'It is said that some part of this ship is still in Armenia, at the mountain of the Korduaion (*Kurdistan*); and that some of the people carry off pieces of the bitumen, which they take away, and use chiefly as amulets for keeping away evils;'" and he quotes Nicolaus of Damascus in support of the special mountain, who refers to it under the name of "Baris." But neither Josephus nor the older historians held the impression generally current in modern times, that the loftiest peak of the range of Ararat was the spot. There is nothing in the Mosaic account which demands the belief that the highest points of this range were covered by the flood. Such localities could not be inhabited by man; and the high hills under the whole heavens may only have been such as were reached by man, or came under the eyes of Noah, as he looked forth on the dark waters of the deluge. The popular imagination, however, appears at a very early time to have assigned to the highest mountain of the range the glory of having received on its summit the ark of Noah. This notion still holds its place in the east. The Persian name for Ararat is "Kuh-i-Nuh," or the mountain of Noah.

The use of the name, Ararat, appears to have been confined anciently to the Jews, and to one or two of the nations in the valley of the Tigris. Mr. Layard has traced it in a cuneiform inscription containing a list of the kings conquered by the Assyrian monarch, Sargon, the successor of Shalmanezer, about seven hundred and seventy years before the Christian era. "In the Khorsabad inscription," he says, "Arghistis is called king of War-ar-di, apparently the genitive case of War-ar-ad, a name that may be identified with the biblical Ararath, the kingdom of Armenia."

A glance at the map, illustrative of the supposed site of Eden, will

indicate to the reader the broken, mountainous character of the tract which stretches from the Grecian Archipelago, in an easterly direction, to the shores of the Caspian. The range of Ararat holds a distinct place. The loftiest peak, or Great Ararat, rises to the height of nearly 17,300 feet above the level of the sea, being more than 1,500 feet higher than Mount Blanc. The other peak of the mountain, or Little Ararat, is more than 13,000 feet above the sea level. When we think of the imposing grandeur of the former as it stands out clad in perpetual snow, which reaches from its summit nearly 3000 feet in the direction of the valleys, and of the dark-looking desolation of much of the mountain below the snow line, we can easily understand how the popular imagination would not be slow to claim it as the fit resting-place for the ark, when the flood abated from off the earth. Ararat can be seen at a great distance. Mr. Layard saw it when about one hundred and fifty-five miles distant. "After," he says, "a wearisome and indeed dangerous ride, we found ourselves on a snowy platform, variegated with Alpine plants. The tiny streams which trickled through the ice were edged with forget-me-nots of tenderest blue, and with many well remembered European flowers. I climbed up a solitary rock to take bearings of the principal peaks around us. A sight as magnificent as unexpected awaited me. Far to the north, and high above the dark mountain ranges which spread like a troubled sea beneath my feet, rose one solitary cone of unspotted white sparkling in the rays of the sun. Its form could not be mistaken; it was Mount Ararat." A nearer view is equally striking. It appeared, says Sir. R. K. Porter, "as if the highest mountains of the world had been piled upon each other to form this one sublime immensity of rocks, earth, and snow. The icy peaks of its double heads rose majestically into the clear and cloudless heavens; the sun blazed bright upon them, and the reflection sent forth a dazzling radiance equal to other suns. My eye, not able to rest for any length of time upon the blinding glory of its summits, wandered down the apparently interminable sides, till I could no longer trace their vast lines in the mist of the horizon—when an irrepressible impulse immediately carrying my eye upwards, again refixed my gaze upon the awful glare of Ararat."

The way in which reference is made to Ararat in the Bible, scarcely leaves a doubt that Moses did not point to the highest peak as the resting-place of the ark. His own expression here is—"The mountains of Ararat;" clearly indicating some convenient spot in this mountain range. The descent, on the part of Noah and his family, from the top

of the highest peak to the plains below, would have been next to impossible. That divine care and goodness which had watched over this household with such constancy, would not fail to guide the ark to a resting-place, from which there would be easy access to the valleys in which the beasts that had been preserved were to find their nourishment, and in which the chosen household were to enter on all the arts in which they had been instructed before the terrible catastrophe overtook men. And Scripture usage points to this. After the sons of Sennacherib, king of Assyria, had slain their father, we are told that "they escaped into the land of Armenia, literally Ararat" (2 Kings xix. 3, and Isa. xxxvii. 38). Mr. Layard has pointed out an interesting corroboration of this verse, in the existence of an Armenian tradition, that, after these men had done this wicked deed, they came into Armenia and founded two dynasties. Again, Jeremiah referring to some of the nations which God was to send against Babylon, says, "Call together against her the kingdoms of Ararat, Minni, and Ashchenaz" (li. 27). Mount Ararat stood in the centre of the locality known by that name. It seems, then, clear enough from these references, that we have to do here with mountains in a particular tract, and not with one mountain—not with Great Ararat. The important bearing which this has on the theory of a local deluge, will at once be apparent. Any flood which could have covered Ararat's snow-clad peak, would have been sufficient to put under water the greater part of the globe itself. Indeed, those who have taken it for granted that Great Ararat is referred to by Moses, have found in this a new argument for the likelihood of a universal deluge.

The mountain system, at which we have already glanced in considering the probable site of Eden, is now more fully before us in connection with the deluge. The Ararat range may indeed be regarded as, more or less, connected with all the rest. It is connected with the Caucasus by a chain which turns from the main body towards the south, and culminates in Great Ararat. It meets the Taurus on the south by its outliers, and the Cicilian Taurus, again, meets the Lebanon on the northern borders of Syria. We have thus, more or less, closely related to Ararat—1. The Caucasian Mountains. These rise near Anapa, situated on the Black Sea, at a point where the comparatively narrow tract between this sea and that of Azov opens into the vast region to the east. They stretch diagonally across that great tract which lies between the Black and the Caspian Seas, and which, on the north of the Caucasus, is characterized by physical features of a kind highly

suggestive, as we shall see, of a period when it must have been under water. A great branch breaks off about the middle of this range, stretches to the south, and forks east and west. The one limb passes along the eastern shore of the Black Sea, until, on the confines of ancient Colchis, it meets the range which passes along the southern shores of the Euxine. The other, grander and vaster, stretches in a southerly direction, and terminates in lofty Ararat. It then shoots out into the mountains of Persia, and other neighbouring straggling ranges. Much light has recently been shed on the special physical geology of the Caucasus and associated regions by M. von Behaghel, M. Abich, and others. Looking at the tract of country connected with its northern slopes, limestone conglomerate (*breccia*), containing shells, to be still found on the shores of the Black and the Caspian Seas, and black alluvial soil, are associated with the recent volcanic rocks. Nearer the central ridge, limestone, penetrated by veins of quartz, and clay slates are the chief deposits. The southern slopes show green sandstones, alternating with thin strata of limestones, and more or less associated with masses of a well-marked volcanic origin. Taking the district from Tiflis, which lies to the north of Ararat, about midway between Great Ararat and the Central Caucasus, to the shores of the Black Sea, beds of limestone and deep alluvium occur associated with greenstones. The valleys to the south of Tiflis are covered with deep alluvial soil, and in the heights granitic rocks are found associated with recent limestone and tertiary strata. The alluvium is everywhere mixed with the debris of these rocks. M. von Behaghel's notice of Ararat will convey a good impression of what the so-called Armenian Range is like geologically. In quoting this description, however, the reader must bear in mind that it was written in 1831. Since that date much more information has been obtained; and while, in the main, his notes are verified, the result is, that much older rocks have been observed in the mountains to the south of the Black Sea than in those lying to the north, and reaching from its shores to the Caspian. Near Constantinople the oldest type of the Devonian occurs, and Devonian strata can now be traced in the range which runs at a distance along the shores of the Black Sea on the south, even to the foot of Ararat and into Persia.

"The extensive plain," says M. von Behaghel, "forty or fifty miles in width, round Ararat, is formed, in some measure, by the expansion of the valley of the Araxes, which, commencing a few miles east of the salt mines of Kulpe, is said to terminate in a wide sweep south-east of Little Ararat. It is almost a dead level throughout, except within a

few miles north-west of Great Ararat, where trachytic rock extends far across the plain, as if poured down from the mountain; and again, north-east of Ararat, close to the Araxes, and in the midst of low marshes covered with reeds, there are several little hillocks, thirty or forty feet high, like islands, and formed of dark-grey limestone with white veins. The soil of the plain in general consists of sand and alluvial earth; in the neighbourhood of Ararat, merely of sand of disintegrated trachyte. Wherever alluvial earth and sand form the superficial stratum, the soil seems capable of cultivation, though little used for that purpose. In some places it is completely bare; and there, in the dry season, it is whitened by the efflorescence of muriate and sulphate of soda. The Araxes was nearly dry in September, being exhausted by the numerous canals of irrigation.

"On the northern face of Ararat the first thing that strikes the eye is a deep and wide chasm, which seems to disclose the interior of the mountain. It begins near the summit with a soft depression, which, growing deeper as it descends, and continuing in the same direction, forms at length a profound glen with precipitous sides, which are themselves rent and split in a thousand forms. Such is the character of the great chasm about a mile above the monastery of St. James. Near the monastery it widens considerably, and escapes, in some measure, from its rocky barriers. Half a mile lower down it branches into a number of shallow depressions, which lose themselves in the plain of the Araxes.

"The immense fragments of rock, ten or twelve feet in diameter, which are heaped together in the bottom of this chasm offer unequivocal proof of the terrific force of the floods which roll down here from the melting snow in spring, and also show the perpetual destruction going forward in the higher regions, which, indeed, is announced almost every minute by low murmuring sounds from the rocky steeps and cavities above. Yet in October the rivulet here is very inconsiderable. In the course of an excursion up the great chasm I was surprised at the sight of a mass of ice, thirty or forty feet in thickness, in a cleft between loose fragments; and on farther search I found many similar walls of ice, which convinced me of the presence of a glacier. This extends, with little interruption, from the region of snow down to within about a mile of the monastery of St. James. It fills the chasm completely where the sides are steep and close; otherwise, it clings to the western side. The lower end of the glacier is covered to a great depth with stones of every size: these piles exhibit fantastical and rugged outlines, which are continually changing, owing to the melting of the ice beneath.

"In some of the hollows of these heaps of stones, sulphate of alumina effloresces so as to form here and there a coat of some lines in thickness. Pieces of the trachytic rock may be found here, covered with vitrified and common opal. If Great Ararat be supposed to have had a crater, this chasm may be considered as its remains. It originated, probably, in the sinking or falling in of this side of the crater.

"The east, south, north-west, and south-west sides of Great Ararat are also deeply marked by numerous clefts and chasms, some beginning near the summit, others lower down, and sometimes uniting together to form one great furrow extending down to the plain. Grassy plains, a quarter of a mile wide, occur at a considerable height on the northern and north-western side of the mountain; but below they are almost always bounded by heaps of loose stones and rocks, one hundred feet or more in height, and resembling the accumulations at the feet of the Swiss glaciers, called *moraines*. Similar heaps, though of greater magnitude, extend from the north-western and south-eastern feet of Great Ararat into the adjoining plains. These appear to me to be streams of lava decayed and broken.

"The rock of Ararat breaks, in general, in masses of from ten to twelve feet in diameter. It is a trachyte of a grey or reddish colour, dense or porous, with more or less vitreous feldspath. On the northern side is found pumice much decayed; on the south-western side, obsidian."

Like Ararat itself, the remarkable range of mountains, which may be conveniently named the Mountains of Armenia, and which includes Ararat, is of volcanic origin. It contains many evidences of the presence of volcanic action, at a date comparatively recent. Excluding Great Ararat, the other highest points in the range are little more than six thousand feet high—many of them sloping gradually into the great plains below. A peculiarly interesting feature of these mountain chains is the broad summits which characterize them. Most other heights which have originated in recent volcanic action, and which have not risen slowly out of the depths of the sea, generally terminate abruptly in rugged pinnacles, and show a multitude of jagged points above. In the Ararat range it is wholly different. The summits consist of immense plains. If we can imagine the appearance which any mountain chain with which we are acquainted would exhibit were its loftiest peaks cut through at a certain height horizontally, we would have in the mind's eye a representation of the plateau of Armenia. The outstanding eminences would be greatly reduced, and undulating valleys would

be found lying pleasantly between the plains formed on the top. May not greater familiarity with the physical geology of this region throw some new light on the question of the deluge? A devastating flood, in sweeping over heights formed mainly of loose volcanic material, would in a few months show an amount of denudation which would far surpass the long-continued denuding power of the atmosphere, and present phenomena which thousands of years in the latter case would be unequal to. The geographical position of this range, its relation to the Black, the Mediterranean, and Caspian Seas, and to the Persian Gulf, renders such suppositions not improbable. The relation between the Black Sea and the Caspian, and the whole aspect of the region on the north of the Caucasus which intervenes, tend to strengthen such an hypothesis.

A review of comparatively recent surveys of this tract is also instructive as regards this point. The long-cherished belief that the Caspian was about 300 feet below the level of the Black Sea, may be considered as now set aside, and the conclusion pointed to generally, first, by the Russian survey under Dr. Freiderick Parrot, and, second, by the Russian survey of 1837 under MM. Fuss, Sabler, and Sawitsh, may be taken in its place. Professor Parrot had himself announced to physical geographers what he believed to be the case, that this difference between the level of the Black Sea and the Caspian really existed. But on visiting the district a second time he discovered that the data for this conclusion were insufficient, and the true measurement yielded the result, "that between the Black and Caspian Seas there is no considerable difference of level." The survey of 1837 found it to be only 83·6 feet.—(*Journey to Ararat*, *Scientific Paper*, *No. II.*)

Professor Parrot discusses very fully in the same paper the question of the connection at some remote period between those seas. After a most lucid and satisfactory statement of the physical features of the region, he comes to the conclusion that such a connection must have existed at one time. It would lead us too far away from our present purpose to enter minutely into these. But the summing up may be quoted, as indicating the general character of the phenomena with which the conclusion is associated. "First of all," he says, "the possibility of such a connection between the two seas at some remote period, and of its continuing longest and latest in this very line, was fully proved by our barometrical measurement," from which it appears that this whole region is very low, rising nowhere more than a hundred feet above the level of the Black Sea, and the river (*Manech*) itself having a very trifling fall of an inch and a half per mile, while "the eastern end of

the great Manech lake is at the utmost but twenty-four feet above the level of the Black Sea. But that the country farther eastward, towards the Caspian Sea, has not a different character, is manifest from the accounts which show that the Manech either takes its rise from a small lake about fifty miles from the low and marshy shores of the Caspian Sea, and flows as a slow and feeble tributary to the Kaláus; or else, which is more likely, that it issues from the Kaláus. This river, according to the latter statement, descending from the foot of Caucasus, divides into two rivers, called Manech, the one running westwards till it joins the Don; the other eastwards, into a small lake, of the former connection of which with the Caspian Sea traces still remain, as has been already stated; from all which it may be safely concluded, that the eastern tract, which was not visited by us, must be also very low, and certainly cannot have an elevation of a hundred feet above the sea.

It is farther to be remarked, that the deepest place, and consequently the line of the former connection between the two seas, is to be sought along the bed of the Manech, and not further either to the north or south; for in the latter direction the country rises very perceptibly towards Caucasus, as is shown by the northerly course of the rivers through it; and on the northern side of the Manech, exactly opposite the place where the Kaláus is said to divide into branches, is a chain of hills, which, at the Kossak post of Verkhnoi Kamennoi Rordon, on the borders of the Don-Kossak and Astrakhan governments, about twenty miles from the Manech, attain a height of 400 or 500 feet, and thence extend northwards between the Sarpa and the sources of the Sal. The Manech therefore marks the line of greatest depression between the Black and Caspian Seas, and may be regarded as a sort of canal, or as the last drain of a communication, for the re-establishment of which, it would be necessary only that the Black Sea should rise 24 feet above its present level.

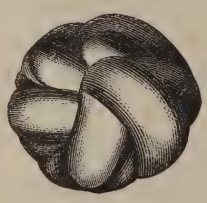
To these reasons for admitting the possibility of a former communication between these two seas, which lingered longest in the steppe of the Manech, are to be added some arguments derived from the physical constitution of the soil, and tending to prove the verisimilitude of that hypothesis.

New Cherkask lies 300 feet above the level of the Black Sea, on a plane which terminates near the town in cliffs or steep banks, where the predominant rock is fully exposed. This is a friable shell-limestone, similar to that which is found at Odessa and other places on the shores of the Black Sea, lying in horizontal strata, as may be concluded from

the layers of clay and sandstone associated with it. This same shell-limestone, of like composition and stratification, we find *in loco* at three different points in the steppe of the Manech, from which circumstance, several of the Kossak posts have obtained the name of Kamennaya, the appearance of rock (in Russian, *Kamen*) being in this tract, as in the steppes generally, something unusual.

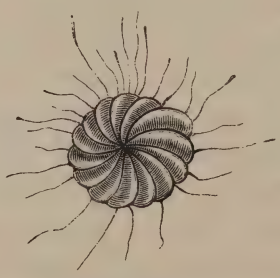
The deposits of salt, to which the waters of the Black and Caspian Seas owe their saltness, may be supposed in like manner to lie at a certain depth below the shell-limestone, and probably to extend from the one sea to the other; for otherwise how shall we account for the number of salt lakes, great and small, about the Manech and onwards as far as the Caspian Sea, particularly in the neighbourhood of the great Manech lake, where the quantity of salt annually collected is so great, that the army of the Don is satisfied with receiving a tenth part of the produce? Or to what shall we ascribe the saline efflorescence so abundant on the surface of the ground in the steppe of the Manech? Or how shall we account for the saline plants in the middle of this steppe, some hundred miles distant from the sea, unless we admit that

Fig. 77.



Cassidulina lævigata.

Fig. 78.



Polystomella crispa.

Fig. 79.

Horizontal section of *Nummulites lenticularis.*

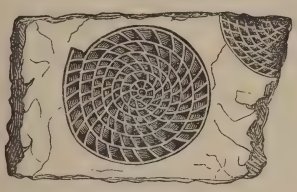
Recent Foraminifera.

the rocks, which form the foundation and bottom of the Black Sea, extend uniformly through the lowland as far as the Caspian Sea, and have been left dry in this slightly elevated tract only by the retiring of the waters? And how can the impression that this region was once submerged, be effaced from the mind of any one who will take the trouble to compare the constitution of its surface on the whole, with that of any spot which has been for some time under water, and exhibits a soil of mixed sand and alluvial earth. We find here a flat country extending sometimes in perfectly level plains; at other times with a surface resembling waves, according as the waters which fashioned the land, and moulded it into its present form, were calm or tossed by

storms. On the shores of the Caspian Sea, exactly where the retiring floods may be supposed to have last directed their movements, we find chains of downs of fine sand lying, for the most part, in an easterly and westerly direction, and containing in their hollows innumerable fragments of common sea-shells."

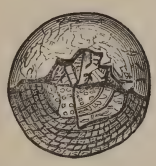
Again, the chain of the Taurus proper may be regarded as rising in ancient Cilicia; and throwing off in its course minor irregular groups, it runs in a north-easterly direction to the great volcanic plateaux of Ararat. In 1843 a large and important portion of it, reaching from Dyarbekr on the Tigris to Sivas in the north-west on the Kizil Irmak or Halys, was carefully examined by Mr. Warrington W. Smyth, F.G.S., whose notes were given in the *Journal of the Geological Society* for 1845. Much information regarding its physical features is also to be found in

Fig. 80.



Horizontal section of *Nummulites lævigatus.*

Fig. 81.



Same, with part of the external plate removed.

Fig. 82.

N. lævigatus.

Fossil Foraminifera from Pyramid of Cheops, Egypt.

Colonel Chesney's work. In a transverse section of the district surveyed by Mr. Smyth, at one part a series of limestones and marly slates of the Chalk period were found, and, higher up than these, calcareous strata abounding in nummulites—fossils which determine the strata to belong to the Middle Eocene tertiaries, and known as the nummulitic limestone.

The animals which inhabited these somewhat complicated discoidal shells, belonged to the sub-kingdom *Protozoa.* They are known as *Foraminifera*, and are grouped in this division at the bottom of the zoological scale, with the *Sponges*, the *Infusoria* which are for the most part microscopic animals, and other groups.

Volcanic influences seem to have been at work since the marls in this range were laid down, for they often appear hardened as if passing into flints. In the plain, on which the city of Dyarbekr is built, the Tigris has cut for itself a valley about one hundred feet in depth through basalt. The hills in the neighbourhood exhibit varieties of the same rock. Volcanic masses are associated with nummulitic limestones, both on the south-west and north-east of the city. Indeed, the phenomena now

noticed, indicate truthfully the geological character of large tracts of the Taurus range. Masses of limestone are seen tilted into directions opposite to their natural stratigraphical position, by protruded igneous rocks; porphyritic greenstones being the agents in some instances, serpentines the agents in others. The age of these intrusive masses, especially the serpentines, is *more recent* than most of their accompanying stratified rocks. This is evident from the way in which they are associated. In most instances they have tilted the strata in the act of rising. In some cases, however, the limestones are found overlying them, and containing fragments of the igneous rocks. The general conclusion pointed to by all these observations is, that here, as in the mountain chains to the north, igneous action has been at work in most recent tertiary times, and the question which is again suggested is, may not this action have had something to do with the agencies which were brought into play in connection with the deluge? Referring to the newest limestones, Mr. Smyth says—"To the deposition of these calcareous strata have succeeded the farther elevation of the chain, and the formation of the existing valleys; phenomena probably contemporaneous with and due to the same cause, as those which produced the protrusion of the igneous rocks occupying several large tracts in the district under consideration. A further study would doubtless prove them to be connected with the vast series of volcanic rocks, of the same general character, which extend at intervals from the Katake Kaumene of Asia Minor to the Taurus, and thence to Mesopotamia on the one hand, and through the north of Syria to Galilee on the other. The protrusion of these rocks is one of the principal agents to which the present configuration of this important tract of country is due." There is a general agreement among all who have visited these regions, that not only the Caucasian chain, but also the chain which culminates in Great Ararat and the Taurus, exhibit phenomena, which distinctly testify both to disturbances of a comparatively recent date, and to a gradual rise, which may belong to a period posterior even to the last of the tertiaries.

If we follow the course of the Tigris to the south, from Dyarbekr to Mosul (*Nineveh*), we reach a district on whose geology and physical geography much light has been shed by the expedition of 1840, under W. F. Ainsworth, F.G.S., and also on an extensive area to the south-east of that surveyed by Mr. Smyth. Taking Nineveh as a starting-point, and proceeding to the north and north-east by the modern Amadiyah, Lizan, Julamerk, &c., to Selmas at the top of Lake Urumiyeh, a distance of about two hundred miles is passed, through a

mountainous district corresponding generally in its geological features with that described by Mr. Smyth. In the district lying between Nineveh and the south end of Lake Urumiyeh, the igneous rocks are found rising at one point, the trap-peak of Rewandiz, more than 10,000 feet above the level of the plain around Mosul. Trachytes, granites, and serpentines are met with abundantly in this line, and at one point and another, considerable deposits of sandstone and limestones are found associated with them. This area stands closely related to that specially noticed in the Bible account of the deluge; and as it witnessed some of the earliest efforts of the men after the flood, to win themselves a name and renown on the earth, this notice of its physical features and geology has been introduced here.

Fig. 83.

The Raven (*Corvus corax*; Heb. *Orev*).

At the end of forty days Noah "sent forth a raven, which went forth to and fro, until the waters were dried up from off the earth" (ver. 7). There is no call here for holding that the Hebrew word *Orev* is employed as a generic term for all the crow kind. The use of the word throughout Scripture in connection with incidents which indicate the well-known habits of the species Raven (*Corvus corax*), unmistakably point to that bird.

In the reference to ravens in Leviticus (xi. 15) they are regarded as representatives of the family (*Corvidæ*) to which they belong, and several species are doubtless included in the term, which is general—just as we use the word "crows" to express all the British species, as the Raven (*Corvus corax*), the Carrion Crow (*C. corone*), the Hooded Crow (*C. cornix*), the Rook (*C. frugilegus*), and the Jackdaw (*C. monedula*). So likewise in Deuteronomy (xiv. 14).

The glossy black plumage of the raven has in all times attracted attention. Looked at in the sunlight, a glancing shade of deep steel-blue seems to cover the back and breast especially. In the Bride's praises of the beauty of her Beloved, she characterizes him as "the

chiefest among ten thousand. His head is as the most fine gold, his locks are bushy, and black as a raven" (Song v. 10, 11). Two expressive allusions to the habits of the raven may be noticed here; others will be referred to afterwards. "The eye that mocketh at his father, and despiseth to obey his mother, the ravens of the valley shall pick it out" (Prov. xxx. 17). All who have watched this bird in its wild state, and seen it approach the lifeless carcass of sheep or ox, will acknowledge the faithfulness of this description. "When it has discovered a dead sheep, it alights on a stone, or other eminence, folds up its wings, looks around, and croaks. It then advances nearer, eyes its prey with attention, leaps upon it, and in a half-crouching attitude examines it. Finding matters as it wished, it croaks aloud, picks out an eye, devours part of the tongue if that organ be protruded, and, lastly, attacks the sub-caudal region. By this time another raven has come up. They perforate the abdomen, drag out and swallow part of the intestines, and continue to feast until satiated or disturbed." The custom, still more or less prevalent in the East, of casting away the bodies of certain malefactors in unfrequented places, and leaving them unburied, or of exposing them, even when alive, to the attacks of wild beasts, is used as an illustration by the wise man, when pointing out the sinfulness of disobedience and of despising parents. They shall be punished, he says, as great crimes are.

The raven's natural love of solitary and desolate places is noticed by Isaiah. Describing the desolation of judgment-stricken Idumea, he says, "the owl also and the raven shall dwell in it." Seen in a desolate place, its very presence adds to the gloom. Its perch high on the edge of some jagged cliff, its attitude of repose, the hoarse croak which occasionally breaks the deep silence all around, increase the dreariness of the scene. No doubt much of the superstitious feeling which has gathered round it, is to be traced to this love of wild and unfrequented localities. Both Greeks and Romans eagerly watched its flight and the quarter from which its croak was heard. Was it on the right hand, the omen was good; on the left hand, it boded ill—

> "The hateful messenger of heavy things,
> Of death and dolour telling."

Shakspeare notes another phase of this superstition—

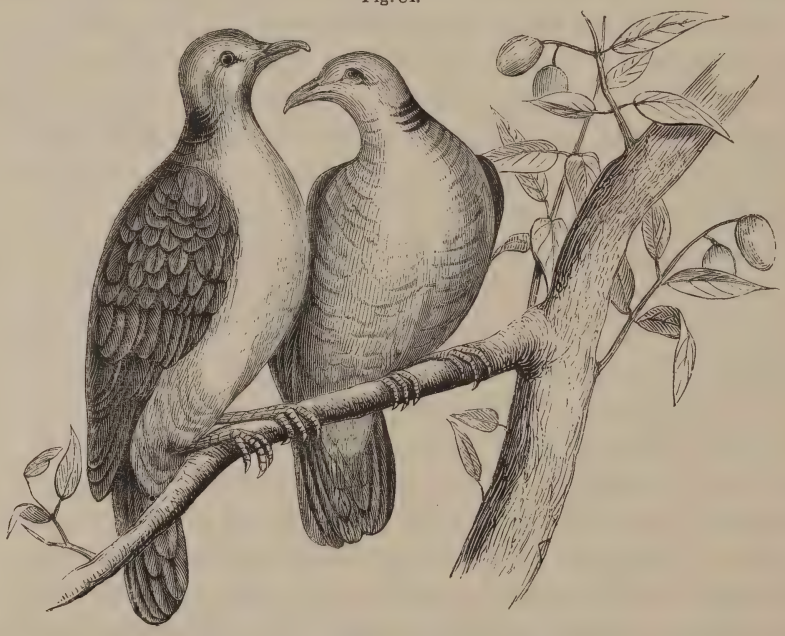
> "It comes o'er my memory,
> As doth the raven o'er the infected house,
> Boding to all."

This kind of feeling, it is to be feared, has led to the popular impression that the raven returned not to the ark, because it found a resting-place on the carcasses which must have been floating on the dark waters of the deluge. The pictorial illustrations of the Bible which were set before us in childhood, representing the carrion-loving raven busy digging into the eye-sockets of a dead Cainite, hold their places in our memories in after life, and become virtually our guides in the interpretation of many passages of Scripture, when we are least conscious of their influence. Thus views of Scripture, formed at periods when superstition and bigotry were as powerful as learning was low and correct knowledge of the sacred text rare, are frequently found surviving in the very midst of the light which full-orbed intelligence sheds upon the Word of God. What is the foundation for the notion that the raven returned not, because it found food in the carrion floating on the waters? The expression in the common version is—"went to and fro." The weight of the phrase is simply "going out and returning to the place whence it had set out." It came back to the ark most likely for purposes of food, and in search of its mates. It does not seem to have entered it. But there is nothing in this verse which excludes the idea of its having returned. It had been sent forth as a messenger, and its delay abroad told Noah what he wished to ascertain—namely, that the waters had left those heights which he knew the raven frequented. Indeed this is the point of chief interest in sending out the raven, and then the dove. The circumstances can be imagined. The scene is presented to us in bold outline in the sacred narrative. After the breaking up of the fountains of the deep, and the opening of the windows of heaven—when sea and sky did the work for which they were then used—the waters prevailed. The ark was borne "fifteen cubits upwards" (vii. 20) above that range of mountains which flanked Great Ararat. These were the only heights which Noah had watched. We are told here what he had seen. The loftiest peaks of all were clad in clouds and darkness, the mountains were covered with the waters, and the vessel floated on amidst the dreariness and desolation all around. Time hastens past. At length the ark touches dry ground in safety—"it rested on the mountains of Ararat." Noah opened the window. He wished to know his position as to the heights around. Was he at the level which the "tempest-loving raven" haunts? His anticipations were correct. The bird found himself so thoroughly at home, that he spent his time in going and coming between the ark and the heights already left bare by the subsiding flood. His mate was yet a captive in the vessel of safety, and instinct alone would

keep him hovering near. He may have found carrion left in the hollows among the heights; but that this consisted of the bodies of drowned Cainites, popularly held to have afforded him a resting-place on the wild waters, is an assumption wholly gratuitous. The distinct statement that the ark had rested on the mountains before the raven was sent out, shows that there was dry land.

"Also he sent forth a dove from him, to see if the waters were abated from off the face of the ground: But the dove found no rest for the sole of her foot, and she returned unto him into the ark; for the waters were on the face of the whole earth: then he put forth his hand,

Fig. 84.



Syrian Doves (*Turtur risorius;* Heb. *Yōnāh*).

and took her, and pulled her in unto him into the ark. And he stayed yet other seven days; and again he sent forth the dove out of the ark: And the dove came in to him in the evening, and, lo, in her mouth was an olive leaf pluckt off. So Noah knew that the waters were abated from off the earth. And he stayed yet other seven days, and sent forth the dove, which returned not again unto him any more" (ver. 8–12). The view now given of Noah's object in sending out the raven, is corroborated by his choice of the dove as the next messenger.

Figures of the Syrian dove are given in this place chiefly with the view of having them before us, for the illustration of other passages in which no doubt it is mentioned. There is much greater difficulty in identifying

the species in this case, than in that of the raven. The term used here is generic. The Hebrew word *Yonah* means the dove kind generally (*Columbidæ*). When species are spoken of, except in the case of the turtle-dove (*tor*), it is rather by indicating habits than by any definite name.

Several points of interest are suggested in the narrative of the sending forth of the dove. 1. It was to ascertain if the waters were abated. The raven had told plainly, by its home-feeling among the heights, that the high lands were dry. But these mountain tops would neither be suitable for the household of Noah, nor for the great majority of the creatures which he had taken into the ark. No distinct mention is made of an intervening period between the sending forth of the raven and the despatch of the dove. But that there was a period of a week is deducible from the narrative of the repeated acts. Indeed it is clearly implied in the expression, "yet other seven days," when she was sent forth a second time (ver. 10). All nature, however, was as yet desolate. The dove was not at home even among the heights on which the ark now rested. Her dwelling was lower down; and "she returned unto him into the ark." 2. Several expressions used here may warrant a closer approach to the determination of the species of dove referred to. We are told that "she found no rest for the sole of her foot." But the fact that the ark had rested, weeks previously, on Ararat, and that the raven had continued "going to and fro," supply strong evidence that there was much land dry. Then it is said he put forth his hand, and "pulled"—literally, wholly lifted—"her in unto him into the ark." This implies that she was wearied by her flight. But if we add to these considerations the statement in verse 11, that when sent forth a second time, after a week had passed, "she came to him in the evening," it will appear highly probable that she had on the first occasion not only been long on the wing, but had flown to a great distance. We are entitled to conclude from the context that, had the species sent forth been the rock dove (*Columba livia*), it would have found "rest for the sole of its feet" when it had become weary on the wing, inasmuch as the jutting cliffs of the mountains had begun to appear again. This species has its home in the rocks, and frequently nests at about the same level as the raven, though it often chooses a spot lower down. Thus, had the rock dove been sent out, no other purpose would have been answered than had already been accomplished by sending forth the raven. 3. This view is strengthened by the fact, that when she returned she brought the olive leaf in her bill. This, too, may help us

to a satisfactory estimate of the geographical position of the olive-tree. She had gone in quest of her nesting places. These had been found at a distance, though she had not required to fly as far as before, for there is no mention of fatigue—"she came in to him in the evening." But why have returned? Her mate was still in the ark, and, under the control of the strong instinct for the preservation of the species, she brought back with her some material for their nest—"and, lo, in her mouth was an olive leaf pluckt off." The incident proclaimed to Noah and his household that all their hopes were soon to be gratified. The slopes on which the olive was known by them to flourish were now left dry. A few days more, and they would tread again those very plains, now associated with memories as full of warning, as the new life on which they were about to enter, almost as if alive from the dead, was to them full of hope. Traces of the incident are to be met with in the traditions of every nation. The dove and the olive branch became a world-wide symbol of peace.

On being sent out a third time, the dove "returned not again unto him any more." She had sought a mate in the ark, but had to leave it again alone. Would she be more successful among the olive groves now left dry? Impelled by instinct, she seeks them in search of a mate. Again we are called to admire the rare beauty of the narrative, and the truthfulness of these notices of birds to nature. The habits even of our domestic pigeons shed light upon these references. They love to form their nest, even when a breeding place is formed for them, with twigs, and may sometimes be seen, when free twigs are scarce, attempting to "pluck off" those still adhering to the bush or hedge. Frequently a domestic pigeon may be noticed, when deprived of its mate, hastening in its season to prepare a nest, and toiling at the work as hopefully as if wooed and won by a favoured suitor. The rock dove generally uses the same material—sticks and straws—for nest-making as most of the other species. But the eggs are sometimes found laid down on the bare rock, with only a few blades of withered alpine grass beneath them. Adding, then, the fact of its having returned with the olive leaf to the other fact, that when the olive groves were left dry it did not return, we have the fair inference that the species sent forth was one which nested in trees—it was not, in a word, the rock dove, which is generally allowed to be the parent of most of our domestic varieties, all of which, like the original species, love a solid place for nesting. This species, which may be regarded as world-wide in its distribution, is mentioned in the Song of Solomon (ii. 14)—"O my

dove, that art in the clefts of the rock, let me see thy countenance, let me hear thy voice; for thy voice is sweet, and thy countenance is comely." A fuller notice of it will be given under this passage; and the use made of the dove, as a type and emblem, by the writers of Scripture, will be considered under Leviticus i. 14. Meanwhile the place of this family of birds in the zoological scale may be indicated. The question of the true place of the doves (*Columbidæ*) in a system of classification has been very fully discussed, even from the days of the father of natural history—Aristotle. At least a dozen different positions have been assigned to it, according as it was viewed in the light of some one feature of its organization or its habits; and it was only at a period somewhat recent when naturalists were willing to admit into their comparative view of the family all known features as to both, that its present place was assigned to it, between the Climbers (*Scansores*), as the woodpecker, on the one hand, and the Gallinaceous Birds (*Gallinæ*), as the pheasant and domestic fowl, on the other. Linnæus associated the dove with the Singing Birds (perchers, *Passeres*), because in some of its habits it resembles them. Like them, he showed the male takes only one mate, tabers, or brings its head down on its breast when pairing, and takes its turn with the female in the process of incubation. He sought also to associate it with this family because of its mode of feeding its young, its habit of laying few eggs at one season, and its loving an elevated place for nesting. But so great variety prevails among the perching birds in regard to all these habits, that such characteristics were found wholly unsatisfactory as bases for a trustworthy scientific classification. 4. The leaf which the bird brought back was one "pluckt off." We are led to infer from this that the olive-trees continued to grow in their usual position. The waters of the deluge had retired so quietly from off the earth, as not to have swept away with them the vegetation which flourished before the flood. Much of this would no doubt perish. The olive had not.

The Olive (*Olea Europæa*, Hebrew *Zayith*), which is now first mentioned, occurs very frequently in other books of Scripture. It claims particular notice both on this account, and also because it has been associated by the Spirit of God with many thoughts of great beauty, with peculiarly rich views of the exceeding grace of God to man, and with some of the most touching incidents recorded in Holy Writ.

In the natural system of botany, this plant is ranked under the family *Oleaceæ* or Olive-worts. The olive may be regarded as the type of this family, which includes such well known forms as the Ash

tree (*Fraxinus*), the Privet (*Ligustrum*), and the Lilac (*Syringa*). To it also belong the Snow or Fringe tree (*Chionanthus*) of South America; the evergreen shrub *Phillyrea*, which has been introduced into British shrubberies from the shores of the Mediterranean; and the pretty *Fontanesia*. With one or two exceptions, Scripture references are made to the cultivated olive. In its wild state it is a low creeping bush, with crooked branches. When under careful cultivation, it grows into a goodly tree. The olive belongs to the highest group of trees—the *Exogens*, or those whose wood increases in thickness by the annual

Fig. 85.

The Olive-tree (*Olea Europæa*).

addition, on the outside, of concentric layers. If the reader will examine the flower of the white lilac, he will have a good idea of that of the olive. The outer envelope (*calyx*) of the so-called flower is green and cup-like, consisting of one sepal, or calyx leaf (*monosepalous*). The flower (*corolla*) is united at the base, forming one petal or flower leaf (*monopetalous*), but, about the middle, it is cleft into four divisions. The stamens, or propagating organs of the flower,[1] are two in number, and the pistil which contains the ovary or seed receptacle, shows, when divided vertically, that this receptacle is two-celled.[2] The flowers of

the olive are white, placed on the stalk at the roots of the leaves, and are arranged in bunches.[3] They are very fragrant, and appear in June. The fruit, which is a roundish oval,[4] ripens in September and October; green at first, it passes into a dirty white, and after taking on other shades, it becomes a purple black. The leaves are lance-shaped, evergreen, and generally arranged two by two. The embryo of the olive has, like all the members of this group of trees, a double seed-lobe (*dicotyledonous*).

The olive-tree is said to live to a great age. Hundreds of years are claimed for it. Those still growing in Gethsemane are held to have been in the garden in the days of our Lord's earthly sojourn. Pliny tells

Fig. 86.

Olive Branches.

us that the Athenians, in his day, were in the habit of showing to strangers an olive-tree, which, they alleged, had been planted at the founding of Athens, and which at that time, according to their reckoning, must have been upwards of fifteen hundred years old. The French botanist, M. De Candolle, estimates the natural age of the olive to be above seven hundred years. In his calculations, this is a comparatively brief period of arboreal life. He assigns eight hundred years to the Cedar (*Cedrus Lebani*); one thousand five hundred to the Oak (*Quercus robur*); four thousand to the Boabab (*Adansonia digitata*) of Western Africa; and six thousand years are assigned to the Dragon tree (*Dracœna Draco*)! For the Mammoth Pine (*Wellingtonia gigantea*), the bark of one of which is preserved in the Crystal Palace, a claim is

made which would throw back the embryo condition of even existing trees to a co-Adamic period! But there are certain drawbacks to such computations, which make the data for the longevity of exogenous plants not so trustworthy as at first sight they may appear. In some trees of tropical climes, for example, it is known that more than one outside concentric layer may be deposited in one season, while in others the traces of the regular processes of growth are not unfrequently obliterated by age, by colouring matters, and by the union of series of rings. This will again be referred to under Isaiah lxv. 22.

Though the olive is characterized by a specific name (*O. Europæa*), which might seem to point to Europe as its native region, it is not an indigenous European plant. It was introduced to Europe from Asia Minor at a very early period. The legend of its introduction into Greece is suggestive of the circumstances now under notice. A dove, it is said, flew from Phœnicia, with an olive branch in its mouth, into the temple of Jupiter at Epirus, and the priests planted and watched over the twig until it became a full-grown tree. Gibbon, in the second chapter of "The Decline and Fall of the Roman Empire," when referring to Pliny's elaborate account of the olive, points more truly to the cause of its introduction to Europe. Its acceptance by the Easterns as a symbol of peace everywhere met adventurers from the West, and they returned bringing the symbols home with them. "The olive," he says, "followed the progress of peace, of which it was considered a symbol. Two centuries after the foundation of Rome, both Italy and Africa were strangers to that useful plant. It was naturalized in those countries, and at length carried into the heart of Spain and Gaul. The timid error of the ancients, that it required a certain degree of heat, and could only flourish in the neighbourhood of the sea, were insensibly exploded by industry and experience." It is, however, true that this plant requires warmth, as its position in France, Spain, Italy, as well as Syria, testifies. Baron Humboldt states that it flourishes between the parallels 36° and 44°; wherever the mean annual temperature is from 62·6° to 58·1°, where the mean temperature of the coldest month is not below from 41° to 42·8°, and that of the whole summer from 71·6° to 73·4°. These facts should remove all doubt in regard to the olive leaf pluckt off by the dove. It appears to have been sent forth in the morning, and to have returned in the evening. In its day's flight it could reach many places in which the olive grew, even though it should be held that those parts of the range of Ararat, in the neigh-

bourhood of which the ark rested, could not be suitable for the growth of the olive-tree.

We find, connected with the history of this plant, one of those curious and interesting links in language by which most remote times are kept together, and families of mankind, which may now seem farthest separated in language, situation, and habits, brought into close association. Thus *zayith*, the Hebrew for olive, becomes *zaitoon* among the Arabians. It passes with Arabs into Spain, and is met with as *azeituna*, the Spanish equivalent for an olive; *azeite*, oil in general; *azeituno*, the olive-tree, a word which occurs in the Spanish common saying, corresponding with our "call it what you will"—"You may name it olive or olive-tree, it is all to one purpose" (*olivo y azeituno todo es uno*). The Spanish conquerors took both the plants and the names with them to South America, and enriched their language by yet other derivatives from the original root. Thus the word which was used originally in the districts bordering on the primitive seat of mankind is, under other forms, current at this day in some of the least known tracts of the New World. To trace its history would be to follow the fortunes of several powerful tribes, which have influenced, either in remote or in comparatively modern times, the destinies of many great nations.

The mode in which the sacred historian narrates the subsidence of the waters, deserves to be noticed. They were "abated from off the earth" (ver. 11); that is, they had begun to retire and to leave even the more elevated plains bare. They were "dried up from off the face of the ground;" "the face of the ground was dry" (ver. 13)—the process of drying was rapidly proceeding, and wider areas were seen fully exposed. "In the second month, on the seven and twentieth day of the month, was the earth dried" (ver. 14). It was now with that wide region, out on which righteous Noah gazed from the ark window, as it had been before that awful catastrophe swept over it, carrying with it universal desolation, ruin, and death. The retiring waters would float into surrounding seas the evidences of the terrible havoc; and the earth would be fitted again for the new generation. "The globe was ready to receive again its master, and to nourish him, and the numberless tribes of the animal creation. On the command of God, Noah and his family left the ark, together with all the living beings which had been preserved by him to secure new tribes of occupants of the air, the fields, and the forests. All the species of animals were restored to the earth; 'every beast, every creeping thing, and every fowl,' left the ark, that none of the creatures which were once formed

by the Divine will might be wanting; the deluge was not to interrupt the main course of universal history; all the generations, from the beginning to the latest ages, were to be connected by one unbroken chain; the tree of time was temporarily stripped of its branches and leaves, but its stem was neither felled nor injured; it was full of its native strength, and destined soon to bloom again in all its former richness and beauty. But yet, a new order of things was to begin; therefore, God again blessed the animals with the promise of fruitfulness, desiring them to spread on the earth, which he delights to see replete with life, and to echo with the sound of joy." The judgment brought on the world at the time when God sent the flood, is referred to in other parts of Scripture for high moral ends in God's government of the world, and especially in his dealings with his covenant people—the church. Thus, when he opens up fully the grandeur of his cause, when the church shall have ceased to rest in the enjoyment of limited national advantages and prerogatives, and shall be found bidding for the affections of "all men everywhere," he couches the assurance that the old system of a church confined to a single nation, as in the case of the Hebrews, will for ever cease to be possible when once the Redeemer shall come to be acknowledged as "the God of the whole earth," under this declaration—"For this is as the waters of Noah unto me; for as I have sworn that the waters of Noah should no more go over the earth, so I have sworn that I should not be wroth with thee, nor rebuke thee. For the mountains shall depart, and the hills be removed; but my kindness shall not depart from thee, neither shall the covenant of my peace be removed, saith the Lord that hath mercy on thee" (Isa. liv. 9, 10). In Ezekiel (xiv. 14–20) Noah's influence for good on the fortunes of his household at the time of the flood, are set in contrast with what his influence would have been, had he lived among the wickedness of the days referred to by the prophet. In the former case, the Lord regarded others favourably for his sake; in the latter case, we are told that had Noah been alive, he would only have "delivered his own soul by his righteousness." In this way, the prophet conveys to the people the views of the Lord touching the grievous departure of the nation from him. When Jesus, towards the close of his ministry on earth, seated himself on the Mount of Olives in full view of the Holy City, the disciples asked him for signs of his second "coming, and of the end of the world," and the Saviour used the history of the deluge, among other illustrations:—"But of that day and hour knoweth no man, no, not the angels of heaven, but my Father only. But as the days of Noe were,

so shall also the coming of the Son of man be. For as in the days that were before the flood they were eating and drinking, marrying and giving in marriage, until the day that Noe entered into the ark, and knew not until the flood came and took them all away; so shall also the coming of the Son of man be" (Matt. xxiv. 36—39). As there was general unbelief of the threatening of the flood, so shall it be in the last days:—"When the Son of man cometh, shall he find faith on the earth?" And as all men pursued their usual habits, undistracted by everything like dread of a coming doom, so shall it be with the world when the cry shall be heard, "Behold the Bridegroom cometh," and the Son of God shall again be revealed to it in the brightness of his personal presence. Thus their conduct and attitude were in strong contrast with those of Noah:—"By faith Noah, being warned of God of things not seen as yet, moved with fear, prepared an ark to the saving of his house; by the which he condemned the world, and became heir of the righteousness which is by faith" (Heb. xi. 7).

Some of the uses which the apostle Peter made of this historical fact have been referred to above. One, however, has not been noticed. He points out the great object of the sufferings of Christ, refers to his death and resurrection, and contrasts the success of the ministration of the Spirit among the captives to whom liberty was preached and among the bound who were told of the opening of their prison doors, with the want of success of Noah, as the preacher of righteousness, and the man of faith:—"For Christ also hath once suffered for sins, the just for the unjust, that he might bring us to God, being put to death in the flesh, but quickened by the Spirit: by which also he went and preached unto the spirits in prison; which sometime were disobedient, when once the long-suffering of God waited in the days of Noah, while the ark was a preparing, wherein few, that is, eight souls, were saved by water" (1 Peter, iii. 18–20). After this he adds—"The like figure whereunto even baptism doth also now save us (not the putting away of the filth of the flesh, but the answer of a good conscience toward God), by the resurrection of Jesus Christ: who is gone into heaven, and is on the right hand of God; angels, and authorities, and powers, being made subject unto him" (ver. 21, 22). That baptism of the earth was not only the introduction of a new era to it, but there was implied in it a yet deeper spiritual significance. The very element which, because the word of God associated with it was slighted, overwhelmed the doomed race, was the instrument in the hand of sovereign grace for the salvation of the eight persons in the ark—

"eight souls were saved by water." But there is a like figure connected with analogous results—"baptism doth also now save us." Not indeed in its mere administration, for this is nothing if separated from the spiritual truths which underly it. What were the waters of the deluge, and what their power to save, but for the faith-built vessel launched upon them? And, so, what is that outward washing, if it is not seen to point to him who not only died for sinners, but who is gone into the heaven, and is on God's right hand? In baptism, however, we are associated with the risen Saviour, and it becomes a sacrament fruitful of blessing, "by the resurrection of Christ;" the point of direct practical power implied in this reasoning being this:—You have been begotten, he seems to say, to a lively hope by the resurrection of Jesus Christ from the dead (1, 3), and following this, certain great practical duties are laid upon you, bearing upon your walk before the world and in your households, into both of which you go as thus separated unto God. Bear this in mind, and, lest ye fall, have those warnings supplied in the history of God's dealings with the world ever before you. In all times God has been teaching this lesson. He taught it to some at the flood, when the waters of the deluge were made the means of saving eight souls alive from the general ruin. Let these sufferings of Christ be full of power to you, by their being looked at in the light of his glory. Your baptism tells not only of his blood of sprinkling, but of that sanctification of the Spirit in which you are set consciously alongside of the electing grace of the Father, as being partakers of it. This Spirit-power comes as one of the fruits of his resurrection. See, then, that ye live the lives of souls raised up out of their graves of spiritual death. In your baptism you are pledged to this.

The first act of Noah on leaving the ark was to rear an altar, and to offer burnt-offerings to the Lord. "And Noah builded an altar unto the Lord, and took of every clean beast, and of every clean fowl, and offered burnt-offerings on the altar. And the Lord smelled a sweet savour; and the Lord said in his heart, I will not again curse the ground any more for man's sake; for the imagination of man's heart is evil from his youth; neither will I again smite any more every thing living, as I have done. While the earth remaineth, seed-time and harvest, and cold and heat, and summer and winter, and day and night, shall not cease" (ver. 20–22).

The seventh pair of clean creatures preserved in the ark come now to be of use in the service of God. It is noteworthy that the offering

was not once. Noah and his household continued for the time worshippers of the God of heaven. Their worship was not the homage of gratitude only. It was the offering of faith likewise. It does not admit of any doubt, that these rescued souls acknowledged and had fully before them the great doctrine of atonement through a substitute. The same One seen by Abel in the bleeding firstlings of his flock, is now looked to by Noah when, as the priest of his house, he stands by the altar.

"The burnt-offerings of Noah, according to this, must have been designed for an atonement in behalf of the remnant that was left; and as Hezekiah said, after the carrying away of the ten tribes, 'for the making of a covenant with the Lord.' This his offering was graciously accepted—*The Lord smelled a sweet savour*, and bestowed upon him and those who were with him a covenant promise not to curse the ground any more for man's sake. The reason given for this is singular —*for the imagination of man's heart is evil from his youth.* If God had dealt with man according to law and justice, this should have been a reason for destroying rather than sparing him; and was the reason why the flood was brought upon the earth. But here he is represented as dealing with him through a substitute (for the promise follows the acceptance of the burnt-offering), and in this view the wickedness of man, however offensive, should not determine his conduct. He would, as it were, look off from him, and rest his future conduct towards him on another ground. He would in short, knowing what he was, deal with him on a footing of mercy and forbearance." And thus the deep significance in the fact, that the promises given after the flood were made by God to man in connection with this sacrifice. They were drawn down by the virtue of that great sacrifice of Christ, which was, in the promise, even then before the world. Through it alone all true blessing comes to man still. In this passage we meet for the first time with the expression "burnt-offerings." The reference in such circumstances carries us beyond the time of the flood, and gives us another glimpse into the religious life of man in those early times. As an institution, then, sacrifices are not to be regarded as the haphazard fruit of the longings after peace by an uneasy conscience, the gropings of sin-burdened souls after God, or as the mere contrivance of fallen human nature to pacify an offended deity. They were divinely instituted. The traces of their existence in some form among all nations tell a far different tale than this. For even as those traditions of a great flood which are to be met with in all lands and among most

widely separated families, are principally suggestive of an ancestral connection with the household of Noah, so this practice, universally prevalent over the earth, of approaching some unseen Power by the way of sacrifices, points clearly to the same original relationship. It is often assumed, that this mode of drawing near to God was instituted first in the days of Moses. But both the present and other records of worship by burnt-offerings wholly discountenance such an assumption.

The promise contained in the eighth chapter relates to the soil, to the living creatures on it, and to the seasons. In regard to the first of these the question may be fairly raised, as it was long ago by Bishop Sherlock, is the expression, "I will not again curse the ground any more for man's sake," to be regarded as the repeal of the sentence pronounced after the fall—"Cursed is the ground for thy sake?" The nature of this curse has already been brought fully under the notice of the reader. All that seems to be implied here is, that such curses as those which had fallen on the soil twice because of man's sin would not from this time ever be universal. In the days of Adam men were made to feel that the ground which they tilled demanded the whole energy of the hand and the sweat of the brow, in order that it should be made to yield to them the food required. Wherever they went the stern necessity followed them, and they were shut up to the feeling that they were ever in the hands of a sovereign God. If this verse have any bearing, which is doubtful, on the original curse, it points simply to the fact, that there will be no repetition of it. The ground will not be again cursed as it had been. But nothing is said of the repeal of the original sentence. That, as we have seen, still continues. Linking the words with the deluge, which the context really demands, the promise is equal to a declaration, that no such flood as that which came in the days of Noah for man's sake, and which as to him was universal, shall again be sent on the earth. All the soil connected with man was then virtually cursed, for its natural manifestations were interfered with for a whole year. There was no "green earth," no trees and flowers, seen on it as before. The dark waters of the deluge covered it. But that there is no withdrawal of God from the habitual exercise of his sovereignty over the soil we know, because we have countless proofs that he still deals with man by means of the soil which man cultivates:—

> "He turneth rivers into a wilderness,
> And the water springs into dry ground:
>
> A fruitful land into barrenness,
> For the wickedness of them that dwell therein.

He turneth the wilderness into standing waters,
And dry ground into water springs.

And there he maketh the hungry to dwell,
That they may prepare a city for habitation;

And sow the fields, and plant vineyards,
Which may yield fruits of increase.

He blesseth them also, so that they are multiplied greatly;
And suffereth not their cattle to decrease.

Again they are minished and brought low
Through oppression, afflictions, and sorrow."—(Ps. cvii. 33–39.)

The second feature in the promise relates to the creatures put under man—"Neither will I again smite any more every living thing, as I have done." We have again an illustration of the association of the destinies of the lower animals with that of man on the earth. The expression claims attention in its bearing upon the extent of the deluge. The object of that judgment was specially moral, and had man in view. Its effects prevailed wherever men were found, and included the creatures in the midst of which he lived. Were another deluge sent having a like bearing, it would be universal as to the earth, because men are scattered over the whole of its surface, and thus universal also as to the living creatures. God promises that they shall not perish as at the flood, for such a catastrophe is no more to overtake man. The world and all that is therein are to be destroyed, but by another agency than that used at the flood. As, however, in regard to the soil, the promise does not forbid the exercise of sovereignty over it in God's dealings with man in order to high ethical ends, so is it with the lower animals put under man. He can permit disease to come among their cattle, or he can "suffer them not to decrease."

From the soil and the living creatures the promise turns to the seasons—"While the earth remaineth, seed-time and harvest, and cold and heat, and summer and winter, and day and night shall not cease." This verse has been considered above. Its scope is, that so long as the earth endures there will be no interruption of the regular change of the seasons. Their course had been broken in upon at the deluge. Harvest did not alternate with seed-time, summer did not precede winter. The very distinction between day and night appears to have been lost. It shall not any more be thus while the world standeth. The regularity of the succession of the seasons is fixed in the promise of God, who, however, holds in his own hand here, as in the other elements of the

promise, complete control over them as regards their character. Neither ever favourable seed-times, nor constantly fruitful harvests, are promised. Yet to the thoughtful there is much in all this for constant profit. "The rolling year" in its changes of seed-time and harvest, summer and winter, cold and heat, day and night, bears on it all the marks of covenant blessing, and is directly associated with a promise given in answer to an act of worship, in which the worshipper expressed his faith in Him who in the fulness of time was to come, but who as set up from everlasting was even from the day of man's sin the great hope of all who loved God. And thus the attitude which the man of God assumes to the so-called constancy of nature, is widely different from that of the man who makes an idol of natural law. The latter still asks—"Where is the promise of his coming? For since the fathers fell asleep, all things continue as they were from the beginning of the creation." But the former sees in this constancy the proof of a father's faithfulness, and, for like purposes as Peter had in view, he can appeal to the deluge in proof of God's special control over those laws as Himself above them—"This they willingly are ignorant of, that by the word of God the heavens were of old, and the earth standing out of the water and in the water: whereby the world that then was, being overflowed with water, perished. But the heavens and the earth which are now, by the same word are kept in store, reserved unto fire against the day of judgment and perdition of ungodly men" (2 Peter iii. 5–7). The references at the conclusion of this chapter to the seasons, and to the subject of general temperature, may be illustrated by the diagram given on Plate XXIV., in which the duration of the seasons and the periods of highest and lowest temperature are more distinctly indicated than they were in connection with the cut (Fig. 75) illustrative of the changes of the seasons. The influence which the accumulation of heat near the surface of the earth has in intensifying or in lowering the direct action of the solar rays is also shown. "The oblique circle marked with the signs of the zodiac denotes the varying declination of the sun, and the irregular line which intersects it in something like opposite nodes represents the curve of temperature for a year. The area comprised between the line of temperature and the sun's path, and shaded with parallel lines, represents the cold produced by absorption on the side turned towards Spring; and the nearly similar portion covered with dots, and turned towards Autumn, the heat derived from the atmosphere by the earth's radiation."

GENESIS IX.

THE new epoch dawns. The earth emerges from its water baptism to become once more the platform on which God's great purposes of self-manifestation shall continue to be revealed, and on which man, set in the midst of new circumstances, shall again take his place, as the chief agent by whom the Lord of all will again carry out the great principles of his moral government. Every arrangement leads the mind back to Eden. The face of the desolated world looks forth from darkness, and hastens to become beautiful with the verdure of a strong vegetation. Grass grows upon the mountains; the trees of God, full of sap, will cast their broad branches over the ground again, and food for man and beast will be provided in abundance. As it was to Adam and his partner, so now to those preserved in the ark the command is uttered—"Be fruitful, and multiply, and replenish the earth" (ver. 1). And when the Spirit of God refers to man's relation to the lower animals, it seems as if the words pronounced on the sixth day of creation were being repeated—"And the fear of you, and the dread of you, shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea: into your hand are they delivered" (ver. 2). But great prominence is given to an element in this relation not hitherto mentioned. A positive grant of animal food is made to the household of Noah—"Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things. But flesh with the life thereof, which is the blood thereof, shall ye not eat" (ver. 3, 4). When considering the occupation of the immediate descendants of Adam, this subject was noticed. The absence of the positive permission from the narrative of chapter i. has been made too much of. There is no such permission in regard to the use of the beasts for sacrifice. Yet we have no doubt the narrative warrants the inference that they were slain for that purpose. The dominion given to man over the beasts, the shepherd life of Abel, and the mention of cattle-keeping by Lamech's son Jabal, warrant a like inference. There is a repetition here of the grants made to Adam, but these are stated more fully. In the former,

the green herb is dwelt upon as food for man and for beast; in the latter, the vegetable world is slightly alluded to; and the grant of animal food is distinctly characterized. No argument of any force can be adduced against this conclusion. It is indeed said that the permission to the antediluvians would have been tantamount to the countenancing of violence and of cruelty on the part of the Creator. But no one will allege this in regard to the same grant to Noah. Man's views of the likelihood, or the contrary, of certain modes of action on the part of God are seldom trustworthy. In the present case it is forgotten that it would be utterly impossible for the antediluvians to prepare vegetables for food without, at that time just as now, destroying tens of thousands of living animal forms. Yet we have such comments, even by men of great learning, on these verses as the following:—"The fear and terror of man shall be upon the beasts and fowls, and the fishes shall be delivered up into his hands. These strong expressions easily prepare us for the very striking change which now took place in the relation between men and beasts. Hitherto, man had been ordained to rule over the animals, and to apply them for his use; but he had no authority over their lives, except for sacrifices, and, of course, if he was forced to repel their attacks; he was assigned to live exclusively on the vegetable produce, although he was thereby exposed to a perpetual struggle with the reluctant soil. It was, however, believed that the Adamites in their universal degeneracy were not satisfied to use the milk, or the wool, or the labour of the animals; they longed after their flesh also: and how should generations among which the murder of fellow-men was a familiar crime, refrain from killing those beings over which they believed themselves to possess an unlimited right? This appetite, once awakened, could not easily be eradicated; the custom had, through many centuries, taken too deep a root; it was, therefore, again an act of Divine compassion over human weakness, legally to allow animal food, the enjoyment of which would, without this sanction, for ever have been a crime. Thus the permission to kill animals has remained as a standing monument of the inveterate depravity of the antediluvian generations; it is a concession made to man, because 'the cogitation of his heart is evil from his youth;' it is the inheritance from an age of violence; and though violence can in itself never assume the character of innocence, it ceases, according to our passage, at least to be a sin against the Divine will."—(*Kalisch.*) This is far from a satisfactory view of the peculiarly suggestive passage under notice. Strong Jewish feeling also crops out in it. The divine

grace in Noah was certainly equal to the eradication of any such appetite, however strong; and if animal food were not permitted in the ark, though the fact of the clean beasts being taken in seven pairs affords a strong presumption that it was, there would be a whole year for the strengthening of the habit, at a distance from all temptation. It appears to me the just inference is, that the habits associated with the violence of the men on whom the judgments of the great and holy God had come, would be those against which Noah would be especially warned. Any other view would imply retrogression in the history of the church. But from the first promise of a Saviour given by God to man, the history of the church has ever been onward. Time hastened to its fulness when God sent forth the incarnate Son. And the purpose still points upward and onward, and leads men to look for a more glorious manifestation of "the everlasting Father" than the universe has yet witnessed. "When he saith, All things are put under him, it is manifest that he is excepted which did put all things under him. And when all things shall be subdued unto him, then shall the Son also himself be subject unto him that put all things under him, that God may be all in all" (1 Cor. xv. 27, 28). Special emphasis is put by God on two prohibitions, mixed up with the grants given to Noah, and in him to all mankind, after the flood. I regard these as shedding an indirect light on antediluvian habits. The first is the command not to eat the blood with the flesh—"flesh with the life thereof, which is the blood thereof, shall ye not eat" (ver. 4). The second points to the sacredness of human life—"Whoso sheddeth man's blood, by man shall his blood be shed" (ver. 6). As to the former, it would appear that before the flood came upon the earth, mankind generally had lost everything like right views of his relation to the animals which God had put under him. While permitted to him for all necessary uses, their life was nevertheless sacred in the eye of God; and this had been very clearly suggested to Adam. But in his general alienation from the thoughts of God, man had ceased to have regard to this. The blood, which is regarded as the life, as containing the vital element, had been freely shed, and most likely had been eagerly eaten with the flesh itself. If this were to continue, there would be confusion after the flood as before. Thus the prohibition.

But may there not have been yet deeper thoughts connected with this? "The blood is the life." Yet by that life in the lower animals the higher life in man was to be maintained. And though the prohibition may appear to exclude all blood from the flesh, this was not possible.

Its scope was to demand that it should be drawn from the larger vessels, and put away unused, that the idea of its sacredness might be engrafted on the soul of man. Much will still linger in the smaller vessels, which branch off, tree-like, from the larger ones, and exist in the animal tissues in forms so small that the aid of a microscope is required to detect them.

Fig. 87.

Fig. 88.

These cuts will convey a not incorrect idea of the way in which the blood capillaries are spread over the body. Fig. 87 represents the appearance of the vessels on the surface of a rabbit's lung when magnified ten times. Fig. 88 shows portions of bundles of the small vessels in which the blood passes into the human lung. And what is shown here may be seen in almost every part of any of the vertebrates. To put, then, that which contains special nourishment for man's body within his reach, he is permitted to eat the flesh of animals in which much of the blood *must* still linger; but to maintain on the earth the idea of the sacredness of life, a positive command is given to draw off that which is immediately connected with the vital organs—the heart and the lungs. A twofold reason in nature may be discovered for this. On the one hand, it would have indirect bearings of the most important kind on the attitude of man to the life of his brother man. In all countries where there is no recognition of this, or where it is lightly regarded, murder is common. On the other hand, there are many points of important resemblance between the blood of these animals and that of man, to whom dominion is given over them. That which in composition and structure approaches what is so closely associated in man with the continuance here of the spirit, on which the image of God was stamped and by which his glory in grace is mainly shown in the world, is held by him sacred on this very account. He who gave to the blood its peculiar elements had all this before him. Recent researches in organic chemistry have revealed it to us also. A comparative view of the composition of the blood, and of its structure in

man and in the "beasts that perish," leads to some most interesting results. These, moreover, bear both on the questions raised here and on the evidences of the goodness, wisdom, and love of God, revealed in questions into which we cannot enter except under the guidance of science. If, for example, we take the elements of which blood is chiefly composed, and compare these, as they occur in the blood of man, with the proportion yielded by the blood of some of the creatures given to man for purposes of food, we obtain such results as the following. Healthy human blood gives in a thousand parts—

Water,	783·37
Fibrin,	2·83
Albumen,	67·25
Hematosin, or colouring matter,	126·31
Fatty matters,	5·16
Animal matters and salts,	15·08
	1000·00

The fibrin and the albumen are of first importance as regards vital functions. The mean analysis of fibrin in the blood of certain vertebrates is—

	Ox.	Calf.	Sheep.	Man.
Carbon,	52·7	52·5	52·8	52·78
Hydrogen,	7·0	7·0	7·0	6·96
Azote,	16·6	16·5	16·5	16·78
Oxygen, &c.,	23·7	24·0	23·7	23·48
	100·0	100·0	100·0	100·00

A comparison of the analysis of albumen yields like results:—

	Ox.	Calf.	Sheep.	Man.
Carbon,	53·40	53·49	53·54	53·32
Hydrogen,	7·20	7·27	7·08	7·29
Azote,	15·70	15·72	15·82	15·70
Oxygen, &c.,	23·70	23·52	23·56	23 69
	100·00	100·00	100·00	100·00

Fibrin and albumen go to make up the *serum*, or general fluid of the blood. Floating in this are certain compressed globules. These are the blood discs, with which the application of the microscope to the study of the blood has made us acquainted. Those in human blood are from $\frac{1}{2800}$ to $\frac{1}{4000}$ of an inch in diameter, and about $\frac{1}{12400}$ of an inch in thickness. These blood discs have both an important scientific and

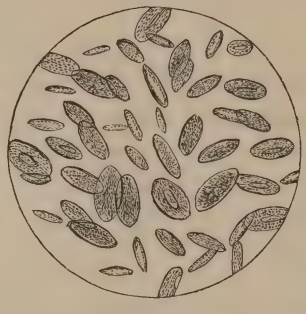
religious significance. They are helpful to the philosophic naturalist in the work of zoological classification, and they are highly suggestive in connection with the question of a plurality of races of men. They are reddish-yellow; and, in the class mammalia generally, are of a discoidal shape.

These corpuscles are elongated-oval in birds (Fig. 90), and larger than in mammals. They are larger still in reptiles and in fishes, and largest in the amphibia (Fig. 91). The blood of fishes leads the naturalist to a yet farther distinction with regard to that great class of animals. The blood corpuscles of bony fishes are roundish-oval, those of cartilaginous fishes are much larger, more distinctly oval, and bear a considerable resemblance to those of frogs. There is no perceptible difference in the general appearance of the blood discs, in the different families of man. In this respect, as in others, but here lying far out of

Fig. 89.

Corpuscles of Human Blood.

Fig. 90.



Corpuscles of Blood of Birds.

Fig. 91.

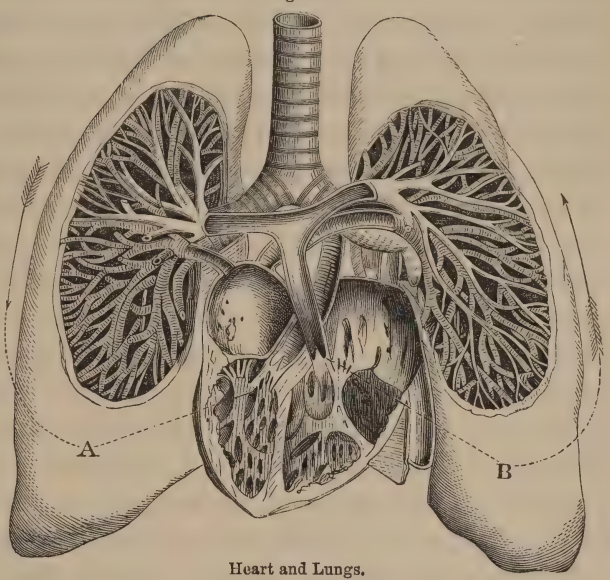
Corpuscles of Blood of Fishes and Amphibia.

common observation, the testimony is decided, that Caucasian and Mongolian, Negro and Malay, are of "one blood" (Acts xvii. 26). While all the mammalia have discoidal blood corpuscles, these vary in shade and in size in different orders. In the blood of monkeys, for example, they are much smaller than in that of man.

It will prevent repetition, and enable us to understand many other allusions in the sacred narrative to blood and its uses, if we take the opportunity offered by this passage to examine this subject a little more closely. So early as A.D. 165, the distinction between arterial and venous blood had been noticed by Galen. But it was not till 1628 when Dr. Harvey published his famous work on the "Motion of the Heart and the Blood," that those enlightened views were obtained on this subject, which seem to have been more than once hinted at even in the Bible. The accompanying cut of the heart, lungs, and principal bloodvessels, will illustrate the following general remarks:—

Blood is of two kinds, arterial and venous. That contained in the left side of the heart, A (Fig. 92), and in the arteries generally, is arterial blood. That contained in the right side of the heart, B, and in the veins, is venous blood. In colour the former is light-red, the latter is a dark claret-shade, often inclining to black. The change from the venous to the arterial blood, takes place in its passage through the minute capillary tubes which spread, branch-like, over the air-cells of the lungs. In this process there is unceasing renewal of vitality, and the rejection of constantly forming elements of death from the body. The life-sustaining element (*oxygen*) is received from without, and that (*carbon*) which in excess would go to the destruction of life, is given off from within. Both of these gases find their way into their respective channels, through the thin, ever moist, porous membranes of which they are formed.

Fig. 92.



Heart and Lungs.

The whole topic of the renewal or oxygenation of the blood offers to the student of nature a theme of deepest interest; and to the observer of the thoughts of God affords material for a chapter, as yet unwritten, in natural theology, unsurpassed by any in yielding abundant proofs of the wisdom and goodness of him who is both the Creator and the great Preserver of men. What fruitful evidence of the constant presence of a controlling and guiding Mind is seen in the support of the body until its day is done—until its service as the hand-maiden of the indwelling undying guest is wholly accomplished—until, in a word, the tabernacle, whose foundation is in the dust, shall be laid down in it—the dust-formed daughter laid to rest in arms of her mother earth, that herself waits for the day when she shall give it up again to Him, through whom the mortal shall put on immortality, and the corruptible the far more glorious incorruptible! (1 Cor. xv. 54.)

The colouring matter of the blood (*hematosin*) is iron in one of its

most important forms (the peroxide of iron). As this travels through the large vessels which contain the current of life, it remains unaltered. But when it gets into the smaller vessels (the capillaries), the vital element (*oxygen*) is abstracted from the iron in its most highly useful condition (*a peroxide*), and is reduced to an inferior form (*a protoxide*). This, however, has been brought about by the wasting of the associated organ tissues, and accompanied by the production of an element which is not vital (*carbonic acid*). This pervades the colouring matter, and is seen in the dark venous blood as a proto-carbonate of iron. And here we meet the evidences of the divine art in this arrangement. In the veins, the stream is loaded with proofs of the wear and waste of tissue —of elements of death then. But it travels to the lungs, where it meets the vital element once more in the act of inhalation. Oxygen is inhaled, carbon is exhaled, and the purified current—the stream pervaded by a new vitality—hastens, in the course of another circle, to sustain the life of the body. Thus the action ceases not till death. We sleep, but the life-pulses and the throbbing heart tell of the ever-flowing streams; we work, all unconscious of the wheel within wheel which moves within. No other consideration can shed such light and such strange meaning as this one, on the words—"In him we live, and move, and have our being" (Acts xvii. 28). See under Lev. xvii. 11.

The second prohibition, which may be held to cast a reflex light upon the state of the world before the flood, has reference to the sin of murder. This is chiefly implied in the threatening contained in verse 5:—"And surely your blood of your lives will I require: at the hand of every beast will I require it, and at the hand of man: at the hand of every man's brother will I require the life of man." From man and beast both, the blood of the man slain by either was to be taken back. In their death, the death of the slain man was to be avenged. Many have pointed to this passage as proof of the institution of the civil magistrate, and of the appointment of men to that office, as "higher powers," "ministers of God for good," "revengers to execute wrath upon him that doeth evil" (Rom. xiii. 1–4). The proof of the existence of a magistracy, in days long anterior to Moses, might seem to make the institution contemporary with Noah. "Two things," says Michaelis, "were contained in this law given to Noah, namely, the power to proceed by capital punishment against the homicide, and the imperative obligation to use that power. God had declared that he would make inquisition for blood, and he adds that he would do it by the instrumentality of men, committing to them the right of death against the

murderer. It was thus that the divine and most benignant Legislator bound together and strengthened the society of the first postdiluvian commonwealth."

But it is very doubtful if the passage warrants such a wide interpretation as this. It is much more likely that we have here, in its full expression, the acknowledged lawfulness of that revenge for blood, which was recognized in Mosaic times, when, however, its abuse was brought under control in those arrangements which came to be made in regard to cities of refuge. For a long time it would be with the magistracy as with the priesthood. The head of the family or of the tribe would act as umpire and judge, as he acted as priest in the performance of public religious duties. This view of the passage strengthens its bearing on the question of the lawfulness of capital punishments. It shows us that what was not sanctioned only, but demanded by God as the punishment for murder in the time of Noah, was, in the whole of its weighty bearings, accepted by the church in the time of Moses as of divine institution; while, like other existing practices which the Mosaic economy recognized, it was brought under strict control, and its action limited by wise regulations. The sacredness of life continues now as then, and the expediency of hedging it from open violence or secret attack continues the same likewise. There is, in reality, no proof of any interference with this principle brought out in the days of Noah, and again, in other aspects, in the time of Moses. That the subject should be put in the strong light in which we meet with it here, is suggestive of the lawlessness of the men of violence whom the flood swept away. Every thing still witnesses that the threatening is not meaningless, even when set alongside of modern civilization. And thus, no doubt, the plain acknowledgment of the lawfulness of capital punishment by our Lord and his apostles. "Put up again thy sword into its place," said our Lord to Peter, "for all they that take the sword shall perish with the sword" (Matt. xxvi. 52). "If," said Paul, "I be an offender, or have committed anything worthy of death, I refuse not to die" (Acts xxv. 11). Thus also, the whole scope of Romans xiii. is in the same direction. "In this passage several things are brought into view. First, The divine appointment of human government. Second, A distinct and explicit recognition of the penalty of death for crime as then in existence, and of the righteousness of this custom. Third, A recognition of it not as the result of any compact in society, by which individual rights are committed to the government, but as coming directly from the appointment and authority of God.

Fourth, A recognition of penal inflictions as a matter of pure retributive justice, and not of mere expediency." Indeed, the principle implied in all these passages has its foundation in human nature itself. In every land it is acknowledged in one form or another. In a patriarchal condition of society the nearest of kin was counted the revenger of blood. As population increased there would be the tendency to break through all restraint in seeking retaliation, and thus, as in the case of the Levitical arrangements, modifications tending to control the feeling were introduced; while, under a kingly government, the civil magistrate became the judge in the case, and was bound to see the law executed.

The next point of special interest in this chapter supplies strong corroboration of the views given above as to full references to previously existing customs, which had either been very briefly alluded to before, or not mentioned at all. This is the assumption of the rainbow as a sign of perpetual covenant blessing. "And God spake unto Noah, and to his sons with him, saying, And I, behold, I establish my covenant with you, and with your seed after you; and with every living creature that is with you, of the fowl, of the cattle, and of every beast of the earth with you; from all that go out of the ark, to every beast of the earth. And I will establish my covenant with you: neither shall all flesh be cut off any more by the waters of a flood; neither shall there any more be a flood to destroy the earth. And God said, This is the token of the covenant which I make between me and you, and every living creature that is with you, for perpetual generations: I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth. And it shall come to pass, when I bring a cloud over the earth, that the bow shall be seen in the cloud: and I will remember my covenant, which is between me and you and every living creature of all flesh; and the waters shall no more become a flood to destroy all flesh. And the bow shall be in the cloud; and I will look upon it, that I may remember the everlasting covenant between God and every living creature of all flesh that is upon the earth. And God said unto Noah, This is the covenant, which I have established between me and all flesh that is upon the earth" (ver. 8–17). It is not the least likely—yea, one might almost say it was not possible—that there could not have been a rainbow before this first reference to it in the covenant with Noah. The mists which refreshed Eden had all the elements in them for such phenomena. Besides, the geological record supplies thousands of illustrations of the existence in pre-Adamic times of the same laws of nature as those seen constantly acting in the present epoch. The

sunlight, the moisture, and the cloud ministered blessing and revealed sights of beauty to the men before the flood just as they do to us; and we, like them, gaze on—

> "Those golden clouds
> That roll in glittering billows
> Beneath the azure canopy."

The "Preserver of men" thus takes one of the most striking and beautiful phenomena of nature, and makes it a sign of his own faithfulness and grace. It has no doubt been urged that the expression in the thirteenth verse, "I do set my bow in the cloud," indicates a new arrangement in nature—the manifestation for the first time of a hitherto unseen phenomenon. The slightest acquaintance with the usual way in which this word is employed in Scripture might have prevented such an objection. In Genesis xli. 41, the same word is used—"And Pharaoh said unto Joseph, See, I have set thee over all the land of Egypt"—the obvious meaning here being, "I have appointed thee." Thus, too, was the previously existing rainbow appointed as a sign. The attempt to find an explanation in science is even less satisfactory. "Though," it has been said, "it had rained before the deluge, yet the superintending Providence which caused the rainbow to appear as a pledge of the assurance that he gave (that the world should never more be destroyed by water), might have prevented the concurrence of such circumstances in the time of rain as were essentially necessary for the formation of a bow. It might have rained when the sun was set, or when he was more than fifty-four degrees high, when no bow could be seen, and the rain might continue between the spectator and the sun until the clouds were expended, or in any other direction but that of an opposition to the sun." A like line of remark may be made as to the belief that the rainbow had often, as "the triumphal arch, filled the sky" before the flood. It "*might*" have existed; it "*might*" have been often seen; this "*might*" not have been the first time of its spanning the heaven, &c.

Rainbows are of two kinds—solar and lunar. The latter are of comparatively rare occurrence; the former are those referred to in the Bible. The rainbow is seen when the sun is shining on rain falling in the part of the atmosphere on which the spectator's eye is fixed. When the rays strike the falling drops they are refracted as they enter them, and reflected back on the rain cloud. On leaving the drops, a second refraction of rays takes place; and the result is the

rainbow. When the rain falls in considerable quantities, and the circumstances now named concur, a second bow is often seen concentric with the first, the prismatic colours in both being arranged in bands as in the solar spectrum—the order, however, being reversed in the second bow. Instead of the upper edge being, as in the exterior bow, violet, it is red, and the lower edge is violet, instead of red. The reader may easily witness the beautiful phenomena of the solar spectrum. If the window shutters be closed and a small hole made in one of them, so as to permit the entrance of a ray of light, a white streak will be seen on the opposite wall. But if a triangular piece of crystal—the prism—be held so that the ray shall strike on it, the one ray becomes broken up into seven distinct rays of different colours—namely, violet, indigo, blue, green, yellow, orange, and red, in order. A farther division has been made. Each sunbeam is found to contain light, heat, and a principle to which the name of actinism has been assigned—a principle on which the development of latent vegetative power in seeds, &c., depends. In the rainbow the colours of the solar spectrum are seen in bands forming the arch on the raincloud. The cloud is generally dark on which the bow appears, though this is not always the case. Rainbows have been seen when only a few light fleecy clouds were scattered over the sky, and more than once they have been observed when no clouds were perceptible. It is curious that this phenomenon, so striking in appearance and so well fitted to attract attention, is not often referred to in the Bible. It is directly alluded to only other three times. In "the visions of God which Ezekiel saw by the river of Chebar," the description of the glory of the Lord contains the first reference. The prophet had the veil which shuts out the unseen from human eye withdrawn, and he describes, in gorgeous language and under figures with which the captives were familiar, the grand scheme of providence seen in the living creatures and the wheels. He sees the likeness of the throne of God, "and the likeness as of the appearance of a man above it." "And," he continues, "I saw as the colour of amber, as the appearance of fire round about within it; from the appearance of his loins even upward, and from the appearance of his loins even downward, I saw as it were the appearance of fire, and it had brightness round about. As the appearance of the bow that is in the cloud in the day of rain, so was the appearance of the brightness round about. This was the appearance of the likeness of the glory of the Lord" (Ezek. i. 27, 28). The same imagery is used in the book of Revelation, but, as was to be looked for, it is set in higher relations, and tells a grander story of the glory of

Him who is on the throne—"Come up hither, and I will show thee things which must be hereafter. And immediately I was in the Spirit: and, behold, a throne was set in heaven, and one sat on the throne. And he that sat was to look upon like a jasper and a sardine stone: and there was a rainbow round about the throne, in sight like unto an emerald" (Rev. iv. 1–3). The halo around the head of the ministering angel who appeared to John in Patmos with "the little book," is thus noticed—"And I saw another mighty angel come down from heaven, clothed with a cloud; and a rainbow was upon his head, and his face was as it were the sun, and his feet as pillars of fire" (Rev. x. i.) In the first reference by John, the rainbow is said to have been "like unto an emerald." It was a lustrous green of different shades. The fourth colour of the solar spectrum prevailed over the rest, and gave its tone to all the others. This may sometimes be seen in nature when watching the changes in the bow. The appearance of a red rainbow—an arch in which the seventh colour of the spectrum thus prevailed—is on record. John's second reference gives us the cloud and the sun associated with the bow. Our thoughts are again turned to the covenant of peace with Noah, for the "sacred sign," that the waters shall no more become a flood to destroy all flesh, still stands out on the cloud. The "type grows not pale with age," but is—

"As fresh in yon horizon dark,
As young its beauties seem
As when the eagle from the ark
First sported in its beam."

The peopling of the earth by the descendants of Noah, the planting of the vineyard and Noah's sin, the curse on Canaan, and the blessing on Shem, are the other important subjects of this chapter. For the first of these, see under chapter x.

"Noah began to be an husbandman, and he planted a vineyard" (ver. 20). The statement has no other bearing than that he resumed labours with which he had been well acquainted before the flood. He had left the ark. His sacrifice had been accepted. God's promises had made him glad. And now he enters upon old occupations. In the new circumstances he begins to be an husbandman. Adam had been set to work even in his unfallen state. He was put in Eden "to dress the garden and to keep it." Husbandry was the first industrial work to which the sons of Adam betook themselves. The shepherd life of Abel forms a closely-related branch of it. Cain devoted himself to

agriculture. Noah's father, the Sethite Lamech, sung on the birth of Noah—

> "This shall comfort us
> Concerning our work
> And the toil of our hands."

And here Noah is represented as betaking himself to the profession of his father, in which, doubtless, he had himself been previously instructed. When the sin of Noah is referred to, a considerable time must have elapsed since the flood. If Canaan, who is mentioned in the curse on Ham, was, as the next chapter appears to indicate, the youngest of Ham's four sons, fifteen or twenty years may likely have passed since Noah left the ark. This is worthy of notice, because it shows that Noah's sin did not take place so soon after the flood as is generally supposed. Does this early cultivation of the vine imply that it, like the olive, had survived the flood? Did the patriarch find it lingering in the rock crevices in the neighbourhood of Ararat when he issued forth from the ark? Most likely he did. The antediluvian vineyards would be swept away. Thus Noah must form one. But the vine, which still grows wild in the localities in which Noah and his sons were placed, might survive. Rich clusters rewarded his toil and care. He squeezed the juice from the grapes, subjected it to the process of fermentation, in which the intoxicating quality is formed, "drank of it, and was drunken;" in the homely words of an old poet—

> "Thinking in that honey-gall
> To drown his woes, he drowns his wits and all."

The lesson lies on the surface:—"In the most lawful employments and enjoyments, we must not reckon ourselves out of danger. It was very lawful for Noah to partake of the fruits of his labour; but Noah sinned in drinking to excess. He might not be aware of the strength of the wine, or his age might render him sooner influenced by it: at any rate we have reason to conclude from his general character that it was a fault in which he was *overtaken.*"

Perhaps no other plant is so often, directly or indirectly, mentioned in Scripture as the vine. The notice of it under this passage is chiefly of a general kind. The circumstances associated with the use of the word in other texts are considered as they occur. The reference to wine is looked at in the same way, and the question of its intoxicating power is fully considered under Psalm civ. 15. Meanwhile it may be said to be almost beyond doubt, that the wine of which

Noah partook was intoxicating in quality. It is an interpretation wholly unwarranted, to paraphrase this passage in such a way as to make it appear that Noah had simply eaten until surfeit set him asleep! The scope of the context forbids such an interpretation. But even on this score there would be no apology for Noah. Excessive eating is as unworthy of man, made in the image of God, as drinking to excess is. The attempt to palliate the fall, by alleging that there was not inebriation to the extent of wholly unfitting him for the duties of life, is equally childish. All this is very unlike the mode in which the sacred historian regards the matter. There is no apology offered—no effort made to extenuate the sinfulness of the act. This appears to have been the one overt act of sin into which this preacher of righteousness—this man perfect in his generations—had fallen; and yet it is not passed over in silence. The record is set down for our warning.

The Vine (*Vitis vinifera*) is ranked in the natural system of botany under the *Vitaceæ*, or grape-bearing family. Like the olive, it belongs to the highest group of plants —the exogens. The *Vitaceæ* are all climbers. The wood is unequal in its growth, less or more twisted, and of little value. The lower leaves of the vine are opposite on the stalk, and the upper ones alternate. The flowers are small, greenish, and arranged in branches (*racemes*). The flower stalks (*peduncles*) sometimes terminate in barren points. These are the characteristic tendrils (*cirrhi*) of the vine, which serve such a useful purpose in enabling the plant to cling to its props. The calyx is small, having its margin slightly five-toothed (*serrated*). The ovary is two-celled. Six genera belong to this group, which are to be met with both in the Old and New worlds. The chief, if not the only value of the vine, is the juice of its grapes, or seed-berries.

Fig. 93.

Vine and Grapes.

The earliest record of the vine is that now under notice. The interest of this is increased by the fact, that the locality with which it is here associated is in the region where the vine is found in a wild state, and to which all researches into its history continually point. Tournefort, Parrot, and others, say that it grows wild in Georgia, in the extensive regions between Caucasus and Ararat, and in those between Ararat and the Cicilian Taurus. In the forests of these districts it is met with under all the characteristics of a native plant. Year by year it yields magnificent clusters of fruit, like those brought from Eschol by the spies (Num. xiii. 24), and shows no evidences of tendencies to degenerate, as it would if left to itself in a region in which it is not indigenous.

Though the native area of the vine is comparatively narrow, the plant is now very widely distributed. It is cultivated from the equator to 55° north latitude in the one direction, and to 40° south latitude in the other. The history of its cultivation—the artificial enlargement of its geographical area, the manufacture of wine, the poetical literature which has gathered round that juice of the grape, which the Psalmist referred to as "making glad the heart of man"—forms one of the most interesting chapters in the geographical distribution of plants. It has, far more even than the olive, influenced all the social relationships of the countries into which it has been introduced. As the sons of Noah wandered from the spot where the ark rested, they seem to have carried the vine with them. It is seen on monuments which supply the records of the earliest history of nations. The poetry of the half mythic period, when the historical era was dawning, supplies clear proof that the cultivation of the vine was common among the tribes who preceded those even who loom out in the pages of Hesiod and of Homer. In the graphic picture of the garden of Alcinous (Odys. vii.), Homer makes special mention of the vine :—

"Close to the gates a spacious garden lies,
From storms defended and inclement skies.
Four acres was the allotted space of ground,
Fenc'd with a green enclosure all around.
. . . . .
Here order'd vines in equal ranks appear,
With all th' united labours of the year;
Some to unload the fertile branches run,
Some dry the blackening clusters in the sun;
Others to tread the liquid harvest join,
The groaning presses foam with floods of wine.

Here are the vines in early flower descry'd,
Here grapes discolour'd on the sunny side,
And there in autumn's richest purple dy'd."

The description of the shield of Achilles, by the same poet when he notices the vine, is as beautiful as the picture is true:—

"There also, laden with its fruit, he formed
A vineyard all of gold; purple he made
The clusters, and the vines supported stood
By poles of silver, set in even rows.
The trench he coloured sable, and around
Fenced it with tin. One only path it show'd
By which the gatherers, when they stripp'd the vine,
Pass'd and repass'd. There youths and maidens blithe
In frails of wicker bore the luscious fruit;
While in the midst a boy on his shrill harp
Harmonious play'd, and ever as he struck
The chord, sang to it with a slender voice.
They smote the ground together, and with song
And sprightly reed came dancing on behind."

The picture drawn so minutely by Homer may be seen realized in almost any Italian vineyard at vintage-time in the present day.

Very early mention is made of the vine's presence in Syria and Egypt. Abraham is met, on his return from war, by Melchizedek, king of Salem, with an offering of bread and wine (Gen. xiv. 18). Its cultivation in Egypt, in the time of Joseph, is left beyond doubt by the passage given in Gen. xl. 9–11. Pharaoh's butler, when telling his dream to the Hebrew youth, speaks of "the vine on which were three branches, as if it budded," of the "clusters of ripe grapes;" and of "pressing the juice into the king's cup"—an act which seems to have been habitual to him, and which shows that the juice squeezed from the fresh, luscious cluster was a royal drink. On this point the statement given by Herodotus (book ii. 77) may seem to contradict the sacred narrative. But it does not. Herodotus describes the common beverage only; in Genesis a royal luxury is referred to. And when he says they have no vines, he clearly points only to the fact, that the vine was not in his day a much cultivated plant, which would be likely to stand out before a visitor any more than it would before a stranger visiting North Britain at present. "Of the Egyptians," he says, "those who live in the corn country . . . . feed on bread made of spelt, which they make into loaves called *cyllestis*. Their drink is wine, which they obtain from barley, as they have no vines in their country"—that is, in

the corn-growing country of which he is speaking. There were vineyards in Egypt; but these were in places generally bordering on the desert, where the soil was much better suited for the cultivation of the plant. The vines of Sebennytus were celebrated for the wines they yielded. Goshen also, situated in the east of Lower Egypt, and in one part stretching to the desert, appears to have yielded vines in abundance. Thus the ground for the complaint of the people of Israel in Kadesh—"And why have ye brought up the congregation of the Lord into this wilderness, that we and our cattle should die there? And wherefore have ye made us to come out of Egypt, to bring us in unto this evil place? it is no place of seed, or of figs, or of vines, or of pomegranates; neither is there any water to drink" (Num. xx. 4, 5).

Noah's sin is mentioned when the vine is first referred to in Scripture. The earliest allusions to it in profane literature are also mixed up with indications of tendencies to the same excess. Homer introduces his hero, Achilles, addressing "Atrides, king of men," as "wine-bibber (*oinobares*), having the countenance of a dog, but the heart of a stag" (Il. i. 224). And Herodotus mentions a custom prevalent among the upper ranks in Egypt, which, if true, would seem to imply a struggle against, and a wish to abstain from, a common sin:—"At their convivial banquets, among the wealthy classes, when they have finished supper, a man carries round in a coffin the image of a dead body carved in wood, made as like as possible in colour and workmanship, and in size generally about one or two cubits in length; and showing this to each of the company, he says, 'Look upon this, then drink and enjoy yourself; for when dead you will be like this.' This practice they have at their drinking parties."

Perhaps it may be regarded as corroborative evidence in favour of the simple manners claimed for the Romans during the first epoch of their history, that the vine was not much cultivated in Italy till long after its wide-spread cultivation had characterized the nations of the East. Greece had always more of eastern tastes than Rome. Its situation, and the disposition of the people of its ruling states, favoured the cultivation of eastern customs, eastern habits of thought, and industrial arts. Roman historians of the later imperial period are fond of contrasting the artificial habits of their day with the primitive manners of Rome in earlier times. Not only was wine little used, as they show, but strict laws were framed against over-indulgence. Certain classes, also, were prohibited the use of it. Ladies were not permitted to par-

take of it before their marriage, and no nobleman was allowed to use it before his thirty-fifth year.

The earliest notice of its introduction to countries bordering on the Mediterranean, yet farther west, occurs in regard to Marseilles, to which the vine is believed to have been brought six hundred years before the Christian era. Its cultivation did not make progress, for the first incursions which the Gauls made into Italy are stated to have been undertaken for the sake of the Italian wine, and to get possession of the plant which yielded the captivating beverage.

"Looking to the present geographical distribution of the cultivation of the vine, we find the northern limit on the west coast of Europe, at the mouth of the Loire, at $47\frac{1}{2}^{\circ}$ N.L.; in the interior of France it rises and comes to 49° at Paris; then it advances in Champagne, and goes on beyond toward the east, still further to the north at the junction of the Moselle with the Rhine, 51°. In Saxony, Thuringia, Silesia, and Prussia, wine is grown in isolated spots as far as 55°; but this is so mediocre that it is better to exclude those points. Taken strictly, the vine-culture of Germany is limited to the valley of the Rhine and its side valleys, those of the Maine, Neckar, and Moselle, and to the valley of the Danube. Hungary has vineyards at 48°—49°; the south-west of Russia (Zarizin) and the Crimea up to the same latitude; and the vine also succeeds on the north side of the Caspian Sea, at Astrachan, in 46°." The vine was introduced into Madeira and Teneriffe from Crete. German colonists carried it to the Cape of Good Hope. Swiss emigrants planted it in North America, in the valleys of the Ohio; and Spaniards gave it to South America. In North Switzerland it is cultivated at a height of 1700 feet above the level of the sea; on the southern slopes of the Alps it is met with at 2000 feet; in the Apennine chain, and in Teneriffe, it rises to nearly 3000; while in the Himalayan mountains it is cultivated at a height of 10,000 feet above the level of the sea.

Noah's fall through over-indulgence in the fermented juice of the luscious grape; Ham's unfilial, impure, and irreverent conduct; the filial act of Shem and Japheth; and the curse pronounced on Ham's son, Canaan, because of his father's sin, are all told here in language marked by very great clearness and strength—"And Ham, the father of Canaan, saw the nakedness of his father, and told his two brethren without. And Shem and Japheth took a garment, and laid it upon both their shoulders, and went backward, and covered the nakedness of their father: and their faces were backward, and they saw not their

father's nakedness. And Noah awoke from his wine, and knew what his younger son had done unto him. And he said,

> Cursed be Canaan;
> A servant of servants shall he be to his brethren.
> Blessed be the Lord God of Shem;
> And Canaan shall be his servant.
> God will enlarge Japheth;
> And he shall dwell in the tents of Shem;
> And Canaan shall be his servant."—(Ver. 22–27.)

Much peculiarly interesting speculation has gathered round this utterance of Noah, which, however, does not properly belong to it. Advocates of slavery have found in it what they believed to be a broad foundation for "the peculiar institution," and sceptics have pointed to it as a proof that, if it be true, the model men of Scripture were, after all, no better than others. The difficulties in this passage are confessedly many and great. Yet these are not chiefly, or even to any great extent verbal—such as could have light shed on them by the application of the principles of advanced modern exegesis. Any difficulty of this kind is connected with the words which indicate the relation between Shem and Japheth. It appears to me that we find a key to this passage by distinguishing between Canaan and the other sons of Ham. Canaan has generally been regarded as the representative of the Hamites, though there is no authority for this in Scripture. All we are taught by the Bible narrative is, that Canaan especially inherited the curse pronounced on his father because of his indecency and impurity. If this be granted, most of the speculations, which are extremely interesting in a historical and ethnological point of view, regarding the Hamite tribes will be seen to have no bearing on the words of Noah.

Three topics of importance are suggested in the passage itself which help to shed light on it:—1. Canaan was the fourth and youngest son of Ham. His sons were "Cush, and Mizraim, and Phut, and Canaan" (Gen. x. 6; 1 Chron. i. 8). "Canaan," says Josephus, "the fourth son of Ham, inhabited the country now called Judæa, and called it from his own name Canaan" (Antiq. i. 6, § 3). 2. Without attempting to understand the reason of the procedure we must acknowledge the fact, that in God's passing by Cush, Mizraim, and Phut, an illustration is given of a principle in the divine government which is taught by other Scripture examples—that, namely, in which we see God's sovereignty displayed in his special dealings with the younger sons of noted families. And though this is seen chiefly in passing by the elder and

conferring blessing on the younger, yet the principle is the same when the mode of procedure is reversed—when the elder obtains the blessing, or is simply passed by without special notice, and the younger is associated with the father's sin in a marked and special manner. Thus it is here. Illustrations of the choice of the younger occur in the case of Isaac (Gen. xxi. 9–21), and of Jacob (Gen. xxv. 23–24; Mal. i. 1–3). Indeed, the same principle is seen from the beginning. Abel is specially blessed, Cain is left in unbelief. The selection of the Syrian idolater, Abraham (Josh. xxiv. 3 ; Neh. ix. 7), in order that he might become the founder of a great nation; and even the bringing in, when the fulness of time was come, of the Gentiles to the enjoyment of the special blessings of grace (Rom. xi.); tell the same tale of the sovereignty of the great moral Governor of the world as the Father of the covenant heritage. "Behold therefore the goodness and severity of God: on them which fell severity; but toward thee goodness, if thou continue in his goodness: otherwise thou also shalt be cut off" (Rom. xi. 22). May not the limitation in Exodus (xx. 5), bearing upon the hereditary curse, be designed to raise the question in our minds of the disposition of those on whom it falls? It is to come "upon the children unto the third and fourth generation of them that hate God." Does not this imply the wicked children of wicked parents? those, in a word, who stand in the same moral relation to God as that in which their fathers stood? The open door to blessing will thus be set before the children of the wicked, and the strongest motives will be presented to them not to be like unto their fathers. 3. The consideration now urged may warrant the inference, that among the children of Ham the disposition which led to the contempt for Noah, as the divine representative in the household and the family leader and example, on the part of Ham, was fully possessed by Canaan, and that thus his name is associated with this curse. The fact, that the other sons are not named, should separate them from its special bearings. Had it been designed to go out in the whole line of Ham, it is in the highest degree probable that the father only would have been named, in such a way as to include all his offspring.

This whole subject is invested with peculiar interest to the theologian, the student of prophecy, the philanthropist, the historian, and the ethnologist. To the first, it presents some of the most difficult questions in dogmatic theology—such, for example, as the difference between prediction by God and the causal expression of his will; or such also as the harmony between his character as a tender, gracious, loving Father, and such views of his ways as meet us in the working

out of his threatenings of wrath and righteous judgment. To the second, it presents a wide field of comparison between the destinies of nations and the prophecies which went before concerning them. The third will find, in a right view of the scope of Noah's utterance, a strong refutation of the arguments which have been drawn from it in support of slavery. And the last two will acknowledge that it is full of suggestive matter as they follow the path of the Hamites, either by the light of monumental records, or by that of the physical features of this great family. The relation of the subject to slavery is that now specially in view. Before the words of Noah can be adduced in support of slavery, they must be shown to include all the Hamites, and it must be made apparent, either (1.) that all the nations descended from Ham were specially cursed above all the Japhetan and Semitic tribes, or (2.) that the Negro family are the descendants of Canaan. The former is directly contradicted by history, and even, by fair inference, it may be held to be so by the word of God. The latter is impossible. Looking at the former, tribes descended from Japheth will be found as unlike a favoured people as the Assyrians and Egyptians descended from Ham. Besides, are these now named not included in the promises of grace themselves? "In that day shall there be a highway out of Egypt to Assyria, and the Assyrian shall come into Egypt, and the Egyptian into Assyria; and the Egyptians shall serve with the Assyrians. In that day shall Israel be the third with Egypt and with Assyria, even a blessing in the midst of the land: whom the Lord of hosts shall bless, saying, Blessed be Egypt my people, and Assyria the work of my hands, and Israel mine inheritance" (Isa. xix. 23–25). Such prospects are not opened up to Canaan. As to the alleged relation between the Negro and Canaan, every statement of Scripture which may be held to shed light on the subject goes to indicate that the seven nations of the land of Canaan—the Canaanites—were his descendants; and that Noah's curse, in the chief aspect of it at least, was fulfilled in their expulsion from the land, and their almost total extirpation by the Shemites under Joshua and his successors. Yet that even in their case there was a day of grace, a time of long-suffering, and, as with the Gibeonites, a remnant spared (Josh. ix.), are evident from the references in the Old Testament to the agricultural prosperity, the populous and walled cities, and the military prowess and skill of the people. For nearly a thousand years at least they were allowed to hold the land as seven distinct and ordered nations. It is acknowledged, however, that the relation of the offspring of Canaan to Japheth,

presents other difficulties which are not so easily got rid of. But this is chiefly because we have been so much in the habit of seeking for an illustration of it, in the connection between the Negro and the Anglo-Saxon branch of the Japhetan family, that light from every other quarter has either not been sought, or been excluded when it presented itself. Already, as we shall see in the sequel, most important discoveries have rewarded the application of ethnology and of historical criticism in the direction now indicated. This information will increase as we become better acquainted with the history of the first migrations of mankind from the neighbourhood of Ararat. Meanwhile, might not as much stress be laid upon the relation of the Japhetan tribes to the Tyrians, the Phœnicians, and subordinate branches of the descendants of Canaan, as is laid upon that of the seed of Japheth to the Negro? Here we would find, often enough, Canaan as the servant of Japheth.

GENESIS X.

IN no department of recent modern literature has such marked advantages rewarded the student, as in the application of historical criticism to the materials which serve for the history of primeval tribes. Its contributions to the elucidation of this chapter are many and of great value. As these deal chiefly with the ancient and modern names of countries and cities, they will be appreciated only as we keep before us, in general outline at least, the outstanding features in the physical geography of the vast tract of country which more or less came to be associated with early Scripture history. This history, for convenience sake, may be broken up into three great divisions; namely, the period from Adam to Noah, from Noah to Abraham, and from Abraham to Moses—the antediluvian, the patriarchal, and, what may not inaptly be called, the embryo-national periods. The purely Hebrew or Jewish element in Scripture history dates rather from the mission of Moses than from the calling of Abraham. The church during the Abrahamic period was not confined to the household of Terah's son. This history demanded a much wider platform even than that lying between the range of Ararat on the east, and the Hellespont on the west—that is, the whole of Asia Minor—wider even, including this, than the great tract lying between the Tigris and the Mediterranean Sea in its northern division, and between the Persian Gulf and the Red Sea on its southern division. The range of Ararat has sometimes been assumed as a centre, in the light of which the gradual dispersion of men, both in Adamic and Noachian times, has been looked at. But both climatal and industrial considerations would make the migration from the original seat of the human race, and from the spot where the ark rested, tend towards the east, west, and south, rather than to the north. The physical features of the surrounding region would also have a well marked influence. To the north of the supposed land of Eden, and of the resting-place of the ark, they would be met by the barriers

"Of frosty Caucasus' bleak mountain-sides,"

stretching like a mighty natural wall between the Black and the

Caspian Seas. Comparatively little progress could be made towards the east without meeting the waters of the Caspian, whose shores, running southwards, would guide men gradually into the immense plateau of Iran, which, strictly speaking, may be held to extend from the Indus to the Nile. Between the range of Ararat and the Caucasus on the north-west, they would meet the shores of the Black Sea, and, following them in a south-westerly direction, they would ultimately be led directly west, towards the Grecian Archipelago, and, indeed, into the whole tract of Asia Minor. The fertile valleys of the Euphrates and Tigris, with those of their confluents, would lead them to the south, and to the east, and to the west. The earliest historical traces of the location of the sons of Noah are in complete harmony with this sketch.

The region now under notice includes the whole of those vast tracts known to us at present, under the names of their modern political divisions, as Affghanistan and Beloochistan, Persia, Arabia, and the Lesser Asia, with Egypt to its most remote western boundary on the Libyan Desert. In looking at its physical characteristics, Ararat is taken as a starting-point. From the two conical peaks, specially referred to already, which give their names to this vast range, the chain of mountains which stretches southward has the ancient Asshur on the west. The main ridge, as it runs to the south, throws off, as we have seen, to the east and to the west a multitude of subordinate ridges. The great mass of the rocks composing this range are igneous. To the west of this chain we saw that the great ranges of the Taurus, and Anti-Taurus mountains, diverge into Asia Minor; the latter being broken up into two main divisions, the northern and southern, the former extending from the mountains of Asshur to the Mediterranean, and along the northern shores as far as the Hellespont. In its approach to the great sea it throws off to the south the ranges of Lebanon and Anti-Lebanon, which run from north to south through the whole of Syria, having here and there ridges which meet them at right angles. Limestone, gypsum, sandstone, and volcanic rocks, constitute the bulk of these. Many of their slopes are well-wooded, and in their valleys flowering shrubs and herbaceous plants are met with in great luxuriance. In addition to these great chains, which stretch out from the snowy peaks of Ararat, another range, not before mentioned, lies at some distance from the western and southern shores of the Caspian, and strikes away to the east into the northern parts of Affghanistan, in a line more or less continuous, and here and there throwing off diverging arms still towards the south.

The river system of this great region is associated with the most important events which have occurred in the history of the world, both in ancient and modern times. On the west we have the Nile, and on the east the Indus. Then we have, rising among the mountains of the great range of Ararat, the Euphrates and Tigris, which drain territories noted in Holy Writ and in profane history; the Halys or Kizil-Irmak, and the Aras or Araxes—the Gihon and the Pison of Eden—which empty their waters, the former into the Black, and the latter into the Caspian Sea.

As was to be expected, a region reaching from 30° to 70° E.L., and from 45° to 25° N.L., exhibits a remarkable variety, both in its forms of animal life and its vegetation, while its mineral characteristics are no less striking. Extending, moreover, from Scythia on the north to the Indian Ocean on the south, and from India on the east to Lybia on the west, its climates pass from the extremes of intense cold to those of intense heat. Its zoology thus, besides including most forms of animal life to be found in Europe, embraces a very great variety of its own. This will be seen when it is stated that it includes the monkey, lion, tiger, wolf, bear, racoon, hippopotamus, camel, stag, horse, rhinoceros, coney, elephant, &c., among mammalia; and representatives of all the orders of birds. Among its reptiles are turtles, crocodiles, lizards, snakes, &c. Its vegetation includes all the characteristic forms of cold, temperate, and tropical climes. The list of precious stones, quoted by Chesney from the translation of an old Persian work, will give the reader an idea of the riches of the tracts bordering on the original seat of the human race. "Of the most important, as well as by far the most productive of these, the pearl (or *Marvarid*), the author enumerates twelve different classes according to their properties, and fifteen different sizes according to the sieves through which they are passed; but he gives the preference of the Indian (Cinghalese) over those of the Kishm and Karak (in the Persian Gulf). Several kinds of turquoises (*Firuz*) are mentioned, of which those of Nishápur are most esteemed; the onyx (*Jezi*) of three kinds; the sapphire (*Yakut*) of six kinds, with many subdivisions; the cornelian (*'Akik*) of seven kinds; the garnet (*Benefsheh*) of three kinds; the magnet (*Ahen-ruba*) of four kinds; diamond spar (*Senbadi*); the malachite (*Dehneh*); lapis lazuli (*Lajuverd*); coral (*Besed* and *Merjan*) of four kinds; jasper (*Yashab*) of five kinds; animal stones, four kinds; bezoar (*Paxhir*), two kinds; chrysolith (*Seberdsched*), three classes; crystals (*Bullar*) of two kinds; amethyst (*Jemest*) of four kinds, and of

several colours; ass'-stone, oil-stone, blood-stone, Jews'-stone (*Ayyir al Yehud*), cat's eye (*Ainolhurr*); and, finally, emeralds (*Smerrud*) of seven different kinds; one of these, which is found in Hijáz, is called the Arabian emerald (*Saboni*), and another belongs to Egypt." This quotation is of twofold interest: it both illustrates the subject specially under notice, and it is suggestive when we bear in mind the place of great prominence given to the use of precious stones, among a people who were brought into relation more or less close, with inhabitants of the district in which the stones are to be found. This latter consideration lets us see with what propriety so many of the most precious minerals which the earth supplies were commanded to be used in connection with many of the most solemn acts of Jewish worship. Some of them could be got in Palestine, but the Hebrews needed to have recourse to other nations for several of the most valuable. Tyre, at a very early period, appears to have been the channel through which these were obtained. Thus, when Ezekiel (xxviii. 11–13) is told to "take up a lamentation" upon the doomed prince of Tyre, and is seeking to set his riches in contrast with the condition of ruin and desolation which were to come on him and the cast-off city, his words are—"Thus saith the Lord God: thou sealest up the sun, full of wisdom and perfect in beauty. Thou hast been in Eden the garden of God; every precious stone was thy covering, the sardius, topaz, and the diamond, the beryl, the onyx, and the jasper, the sapphire, the emerald, the carbuncle, and gold."

"And the sons of Noah that went forth of the ark, were Shem, and Ham, and Japheth; and Ham is the father of Canaan. These are the three sons of Noah, and of them was the whole earth overspread" (ix. 18, 19.)

"Now these are the generations of the sons of Noah, Shem, Ham, and Japheth: and unto them were sons born after the flood" (x. 1.)

Moses, when referring to the location of the first tribes, and when he had evidently in his eye the facts which are related in this chapter, says—

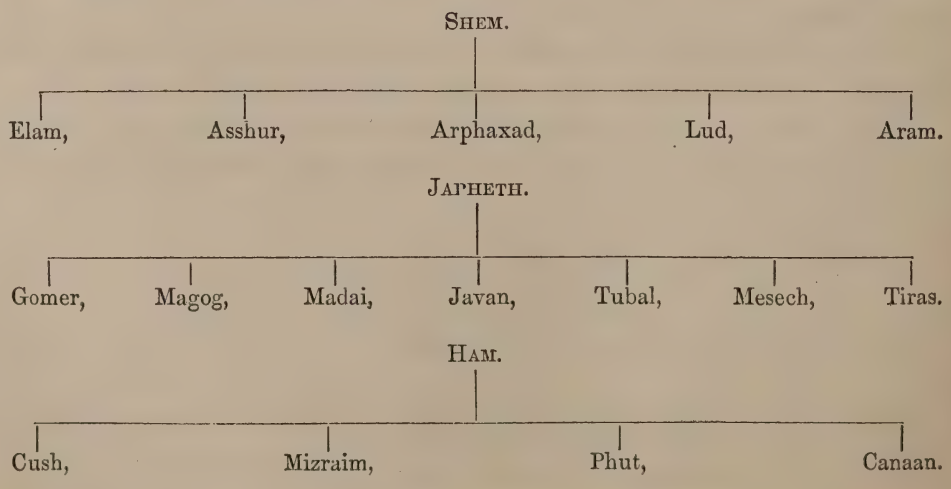
> "Remember the days of old,
> Think of the years of many generations;
> Ask thy father, and he will shew thee;
> Thy elders, and they will tell thee.
>
> When the Lord divided to the nations their portion,
> When he dispersed the sons of Adam,
> He set the bounds of the people."—(Deut. xxxii. 7, 8.)

If we associate Adam and Noah, the links in the genealogical chain stand thus—

ADAM,
Cain,
Enoch,
Irad,
Mehujael,
Methusael,
Lamech,
Jabal,
Jubal,
Tubal-cain,
ADAM, Naamah.
Abel.

ADAM,
Seth,
Enos,
Cainan,
Mahalaleel,
Jared,
Enoch,
Methuselah,
NOAH, Lamech.
Shem, Japheth, and Ham.

When the generations of the sons of Noah are described in this chapter, the genealogical lists become much more complicated by having the names of places linked up with the names of men. Shem was the eldest son, Japheth the second, and Ham the youngest son of Noah. Their immediate descendants mentioned here may be grouped thus—



By them was "the whole earth overspread;" an expression used to denote the geographical regions mentioned here, along with the heads of those tribes which were first to take possession of them. When we have considered in order the countries associated with the names now given, we will be in circumstances to sketch in outline the map of "the whole earth" at this period.

Shem, or Sem (Luke iii. 36), the father of the Shemites, or Semitic tribes, is mentioned in Genesis v. as the eldest son of Noah. Throughout that chapter, the first-born sons take precedence, and there is no good reason for holding that Shem was younger than Japheth. Ham is named in the same passage immediately after Shem, but we learn from chapter ix. 24, that he was Noah's younger son. The twenty-first verse of this chapter has been alleged as a proof that Japheth was the eldest son. But the verse clearly demands that the word "elder" should be joined with brother, and applied to Shem. The Hebrew idiom, moreover, requires this construction. The geographical notices which occur in these genealogical lists are most numerous in the Hamite branch, less so in the Japhetan, and least so in the Semitic branch; unless under the last we hold that, in all cases, the names of the men point to localities. Shem's first son was Elam. He gave the name to a kingdom, of whose history much information can be obtained, both from sacred and profane authors. The biblical materials for the historical outline need only be referred to here. It is the Elymais of political history. Its position can be precisely identified by the passage in Daniel viii. 2—"I was at Shushan in the palace, which is in the province of Elam." It was thus at this date a province of Babylon. It lay to the south-east of Assyria and Media, and along the Persian Gulf. It appears to have existed as a separate, powerful, and independent territory till the time of Nebuchadnezzar. When Cyrus overthrew the great Chaldæan monarchy, and substituted the Persian in its place, Elam was incorporated in the Persian territory. Its capital, Susa, became the royal residence, and its history from that period was merged in that of Persia. Elam will again be noticed under chapter xiv. 1.

The next name in the Semitic list is that of Asshur. He gave his name to the vast region lying on the Tigris, and known as Assyria—a country which occupied a most prominent place, both in biblical history and in that of the world. At present I shall only refer to it in connection with Shem's son. A difficulty occurs here. The later Assyrians are generally held to have been Hamites, yet they take their name from the second son of Shem. When Babylon—the land of Shinar—is

mentioned (ver. 10), we are told that, "out of that land went forth Asshur and builded Nineveh." When the Hamites, under Nimrod, spread into the regions of Shinar, they found the descendants of Shem scattered over it; and on their taking political possession, Asshur migrates towards the Tigris, and following its course to the north—a path which he may have already traversed—he founds Nineveh, which in its turn falls into the hands of the powerful Hamites. The construction which would associate the building of Nineveh with Nimrod cannot be received. But it is of great importance to bear in mind, that bands of the three great families appear to have continued, for a long time, intermixed in the regions now noticed. "In Western Asia," says Mr. G. Rawlinson, "the cradle of the human race, the several ethnic branches of the human family were more closely intermingled, and more evenly balanced, than in any other portion of the ancient world. Semitic, Indo-European (Arian), and Tâtar, or Tauranian races, not only divided among them this portion of the earth's surface, but lay confused and interspersed upon it in a most remarkable entanglement." Forgetfulness of this has led to ethnographical systems which are contradicted at a thousand points, whenever they attempt to keep each family in those primitive times wholly separated from the others.

Arphaxad, the father of Eber, the great founder of the Hebrew nation, is mentioned as the third of Shem's sons. "Arphaxad," says Josephus, "named [his subjects] the Arphaxadites, who are now called Chaldæans." In Northern Chaldæa, and bordering on Armenia, lies the ancient province of Arrapachites, or Arjapakshata. This is generally held to have been the district assigned at first to Arphaxad. It is, however, to be remembered, that we find his descendants, in the days of Abraham (xi. 28), dwelling in Ur of the Chaldees, a city and district on the right bank of the Euphrates, in southern Babylonia. The nomadic habits of the tribes easily account for such differences when localities are named. To Lud the ancient Lydia is assigned as having taken its name from his posterity. Profane history makes it certain almost beyond doubt, that the whole of that district was known as Mænonia, before it obtained the name of Lydia. The descendants of Lud invaded the land from the south-east, and named it Lydia.

Aram took possession of Mesopotamia, or *Aram-Naharaim*, "the highlands of the two rivers:" the hill district which, on the south, looked towards Assyria and Babylonia, and was originally held by the Aramæans or Syrians, a name which comes afterwards to be given to the districts out of which the Canaanites were driven.

The territories assigned to the leading branches of the Japhetan family conduct us further from the primitive seat of mankind. The first notices of them, however, bring them before us as Armenian tribes. Gomer's sons were Ashchenaz, Riphath, and Togarmah. The first of these settled in the district lying at a short distance from the south of the Caspian Sea; the second has the Riphæan Mountains, in eastern Asia Minor, assigned to him; and the last is identified with Armenia proper. These join with Madai, or the Medes, in after ages against Babylon. "Set ye up a standard in the land, blow the trumpets among the nations, prepare the nations against her, call together against her the kingdoms of Ararat, Minni, and Ashchenaz; appoint a captain against her; cause the horses to come up as the rough caterpillars" (Jer. li. 27). The descendants of Gomer branch off to the north and to the north-west, and throw out the great Cimmerian ethnic branch. They have representatives in the modern Celts, Gaels, and Cymry; and have left traces of their ancient name in the *Crimea*, the *Cimmerian Sea*, or Euxine, in *Cambria*, and *Cumberland*.

Magog led his tribe farther north still, occupied the northern Caucasus, and the plains which stretch away from these. Madai was the father of the Medes; Javan took possession of Greece, and his immediate descendants occupied the islands of the Mediterranean, and its northern coasts; Tubal and Mesech settled along the south-eastern shores of the Black Sea, having the Caucasus on the north, and the Armenian mountains on the south; and Tiras led his followers more to the south, and took possession of large tracts of the Taurus chain. The ethnographic line on the map, given at the beginning and marked "Tubal," includes "Mesech" also, to whose descendants no separate line is assigned. As the inclinations of the Japhetan tribes led them towards the north, so those of the Hamites led them chiefly towards the south. Ham's eldest son, Cush, appears to have lingered on the east and south-east of Ararat, and afterwards to have thrown off colonies which went to the west, and took possession of Ethiopia and neighbouring tracts. Mizraim settled in Egypt, and gave his name to a great region in the valley of the Nile. Phut's descendants wandered into Libya and the vast regions of Northern Africa, while the children of Canaan occupied Syria.

The *general* results of these examinations would be to assign Asia to the Shemites, Europe to the Japhethites, and Africa to the Hamites, and to hold that each great family left offshoots in Western Asia. Indeed, it is only in this way that we can arrive at anything like rest

in considering the evident traces to be met with, in Asia especially, of *all* the branches lingering in particular districts. And it is only by giving constant prominence to this, that light can be got on the references, both in Scripture and in profane history, to tribes as existing in circumstances and in localities from which we would be ready to hold them excluded, by the complete possession of these by other tribes which stand more fully out in history. Much mystery has also been cast around the question as to the countries at first occupied by the immediate descendants of Noah, by our tendency to overlook the fact, that the habits in giving names to places by emigrants in those early times were much what they are found to be among this class still. They carry with them the names of the districts which they leave, and bestow them on the localities chosen as their new abodes. Thus, nothing is more probable than that the Cushite should carry the name with him from his first habitation on the east of Ararat, and that he should bestow it on a district bordering on the Persian Gulf, or into the southern valley of the Nile, and make its name permanent there. Elishah may have been a name given to the whole of Greece, and afterwards specially to Elis, or it may have been known as an island in the Ægean Sea, or even as the name of a place on the coast of Africa. In like manner, many of the difficulties regarding the original Tarshish may be solved by remembering this characteristic of emigrant tribes. Tarsus in Cilicia may have been one Tarshish, Tartessus in Spain another. There may have been an Indian Tarshish, to which ships from Ezion-geber sailed, and Ethiopia may have had yet another place of the same name. It is certain that, while the general branches spread over certain well marked geographical tracts, colonies were frequently thrown off. Only in this way can we account for the intermingling of traces of each of the great divisions of language in the dialects of particular districts.

A good illustration of these remarks occurs in the case of the Phœnicians. Herodotus (i. 1) says of them "that they had migrated from the shores of the Red Sea to the Mediterranean, and settled in the country which they now inhabit." And, when describing the arrangements of Xerxes, he relates (vii. 89) that "the Phœnicians, with the Syrians of Palestine, furnished three hundred, being thus equipped: on their heads they had helmets, made very nearly after the Grecian fashion; and clothed in linen breastplates, they carried shields without rims, and javelins. These Phœnicians, as they themselves say, anciently dwelt on the Red Sea; and having crossed over from thence, they settled on

the sea-coast of Syria; this part of Syria, and the whole as far as Egypt, is called Palestine." "By the Erythræan Sea," says Mr. G. Rawlinson, "Herodotus intends, not our Red Sea, which he calls the Arabian Gulf, but the Indian Ocean, or rather both the Indian Ocean and the Persian Gulf, which latter he does not consider distinct from the Ocean, being ignorant of its shape." Did the Phœnicians send a colony from Phœnicia Proper to the shores of the Persian Gulf, or was part of Syria colonized by emigrants from the shores of the Indian Ocean? Even to this day a very close resemblance can be traced between names common to both regions. The *Sidodona* and *Szur* or *Tur* of the Persian Gulf are certainly to be associated with *Sidon* and *Tyre* on the eastern shores of the Great Sea. The colonists carried with them everywhere the names of the chief places in the mother country.

The following outline will set the foregoing remarks more clearly before the reader:—

A. SHEM.

I. Elam	= Elymais, part of Persia; the Asiatic Parsees claim to be descendants of Elam.
II. Asshur	= Assyria, Assyrians, modern Kurdistan and Mosul.
III. Arphaxad	= Arrapachitis in Northern Assyria. 1. Salah, east of Tigris; 2. Eber, between Tigris and Euphrates.
IV. Lud	= Lydia, Lydians in Mountains of Armenia.
V. Aram	= Syria and Northern Mesopotamia, part of Arabia.

B. JAPHETH.

I. Gomer	= Armenia, the Cimmerians, the Cymry, the Celts.
II. Magog	= Caucasus, Scythia, Scythians.
III. Madai	= Media, part of Persia, Medes, some Persians.
IV. Javan	= Ionia, Æolia, Etruria, islands of the Mediterranean.
V. Tubal, Mesech	= Northern Armenia, Tartars, Muscovites.
VI. Tiras	= Taurus Mountains, Thracians.

C. HAM.

I. Cush	= Ethiopia, Havilah, Babylon, Nineveh, Ethiopians, Chaldæans, tribes of South Africa.
II. Mizraim	= Egypt—Upper, Middle, and Lower—Egyptians, &c.
III. Phut	= Libya, Tribes of Northern Africa.
IV. Canaan	= Syria–Phœnicia, Palestine, Canaanites, Sidonians, &c.

The foregoing notes will be helpful to the reader in enabling him to classify the references to the places named from the immediate descen-

dants of the sons of Noah, as they occur in other portions of Scripture. The leading branches are indicated in the map. The traces of the grandchildren of Noah in the names of great historical families of the human race are made good use of by Bishop Watson, in his "Apology," written in the form of a series of letters to the notorious Thomas Paine. "Read," says the bishop, "the tenth chapter of Genesis. It may appear to you to contain nothing but an uninteresting narration of the descendants of Shem, Ham, and Japheth. No, sir; it is one of the most valuable and most venerable records of antiquity. It explains, what all profane historians were ignorant of—the origin of nations. Had it told us, as other books do, that one nation had sprung out of the earth they inhabited; another from a cricket or a grasshopper; another from an oak; another from a mushroom; another from a dragon's tooth; then indeed it would have merited the appellation which you, with so much temerity, bestow upon it. Instead of these absurdities, it gives such an account of the peopling of the earth after the deluge as no other book in the world ever did give; and the truth of which all other books in the world, which contain anything on the subject, confirm. The last verse of the chapter says—'These are the families of the sons of Noah, after their generations, in their nations: and by these were the nations divided in the earth, after the flood.' It would require great learning to trace out, precisely, either the actual situation of all the countries in which these founders of empires settled, or to ascertain the extent of their dominions. This, however, has been done by various authors to the satisfaction of all competent judges; so much, at least, to my satisfaction, that had I no other proof of the authenticity of Genesis, I should consider this as sufficient. But, without the aid of learning, any man who can barely read his Bible, and has but heard of such people as the Assyrians, the Elamites, the Lydians, the Medes, the Ionians, the Thracians, will readily acknowledge that they had Ashur, and Elam, and Lud, and Madai, and Javan, and Tiras, grandsons of Noah, for their respective founders: and, knowing this, he will not, I hope, part with his Bible as a system of fables. I am no enemy to philosophy; but when philosophy would rob me of my Bible, I must say of it, as Cicero said of the Twelve Tables—This little book alone exceeds the libraries of all the philosophers, in the weight of its authority, and in the extent of its utility."

Most of the proper names of this chapter occur, sometimes in an altered form, in other portions of Scripture. In later times they are connected with geographical notices, which indicate that the main body

of the different tribes continued for many generations to hold possession of the localities into which they first wandered after the deluge. A generally correct impression can thus be formed of the countries originally occupied by the families of the men named here. Several of the names have special notices attached to them. These claim attention because associated with the founders of dynasties, which were to stand prominently out in the history of the world and of the church.

In verse 8th we are introduced to the first of these:—"And Cush begat Nimrod: he began to be a mighty one (a hero) in the earth. He was a mighty hunter before the Lord. And the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar." Very soon after the flood all those moral forces would come into play which lead to bold adventure, to political contentions, and to war. At such seasons those daring spirits who are destined to influence the history of great nations come forth. Before the deluge, and when that dark cloud of threatened wrath was looming on the horizon, "the mighty men, men of renown, who filled the earth with violence," had arisen in groups. And now, while Noah was still living, and pursuing the peaceful arts of agriculture on the Armenian plains, the rumours would reach him of the daring deeds and absorbing ambition of the grandsons of Ham. The Semites had taken possession of the rich and fertile plains watered by the Euphrates and the Tigris. Nimrod led his followers forth to occupy some of these and to found a mighty empire. An indirect light is here shed on his popularity. The man great in battle and renowned in war was said to be "even as Nimrod, the mighty hunter before the Lord." Was he the first of the descendants of Noah who openly broke away from the faith of his fathers? The general name Nimrod—or rebel—may have been given to him, as was frequently the case, after he had taken the lead in departing from the faith, and the peaceful pursuits of his people. But not the name only—the historical facts as to the very early date at which idolatrous worship was practised in the localities named here as "the beginning of his power," point to this. On the Nineveh monuments he is represented strangling a young lion, and holding in his hand a bent club. Nimrod soon conquered the districts mentioned, and gave his own name to them all. This name continued to be given even in the days of the prophet Micah. When referring (ch. v. 6) to the heroic deeds of the Maccabees, he says—"They shall waste the land of Assyria with the sword, and the land of Nimrod in the entrance thereof."

The chief cities of the land of Nimrod were—1st, Babel or Babylon (see under Isa. xiii. 1). 2nd, Erech or Arach, a name referred to by Ezra also (iv. 9), who mentions its inhabitants, the Archevites, as of the number of those who had been placed, "by the great and noble Asnapper, in the cities of Samaria." Erech has been identified with the modern Wurka, Irka or Irak, a place situated about eighty-two miles south, and forty-three miles east from Babylon. Erech became a holy city consecrated to the moon. It was also a royal burial place, and seems to have continued of note till a comparatively recent period, as the names of the Greek kings, Saleucus and Antiochus, have been met with on slabs found at Wurka. 3rd, Accad lay about fifty-eight miles north, and thirteen east from Babylon, not far from Baghdad. It is now called Akkerkuf. Here is a large mound, about one hundred and twenty-five feet high, which the natives still name Tel Nimroud, or the "hill of Nimrod." 4th, Calneh is represented by the modern Ctesiphon, on the eastern bank of the Tigris, eighteen miles below Baghdad. Even till the second century of the Christian era it continued an influential city. The Roman emperor, Severus, took one hundred thousand of its inhabitants captive. Amos (vi. 1, 2) refers to Calneh as a city of importance:—"Woe to them that are at ease in Zion, and trust in the mountain of Samaria, which are named chief of the nations, to whom the house of Israel came! Pass ye unto Calneh and see; and from thence go ye to Hamath the great: then go down to Gath of the Philistines: be they better than these kingdoms? or their border greater than your border?" When Isaiah, in the eighth century B.C., introduces (x. 8–11) the Assyrian conqueror boasting of his tributary princes and his great victories, he mentions Calneh as "Calno." "Are not my princes altogether kings? Is not Calno as Carchemish? is not Hamath as Arpad? is not Samaria as Damascus? As my hand hath found the kingdoms of the idols, and whose graven images did excel them of Jerusalem and of Samaria; shall I not, as I have done unto Samaria and her idols, so do to Jerusalem and her idols?" Bochart has identified the Calneh of Gen. x., with the "Canneh" named by Ezekiel (xxvii. 23) in his pathetic lamentation over "Tyrus, the merchant of the people for many isles." "Haran, and Canneh, and Eden, the merchants of Sheba, Asshur, and Chilmad, were thy merchants. These were thy merchants in all sorts of things, in blue clothes, and broidered work, and in chests of rich apparel, bound with cords, and made of cedar, among thy merchandise."

The four towns now mentioned were in "the land of Shinar."

Their identification defines the boundaries of the tract in which they were situated. The land of Shinar corresponds with the region known also as Babylonia, which had for its capital Babel or Babylon. Proof has been obtained by Colonel Rawlinson, from an Assyrian obelisk, that Babylonia was anciently distinct from Chaldæa, though the latter name came ultimately to indicate the region in which Babylon stood. Babylonia and Chaldæa were originally independent states, each having its own king.

Asshur (v. 11). (See under Num. xxiv. 22.)

Nineveh (v. 11). (See under Jonah i. 2.)

Rehoboth (v. 11), literally Rehoboth Ir, the wide city—or city of streets. Isaac (Gen. xxvi. 22) called the third well which he dug, and about which the herdmen of Gerar did not strive, "Rehoboth;" "and he said, for now the Lord *hath made room for us.*" In Gen. xxxvi. 37, another city is mentioned in the genealogical list of "the kings that reigned in Eden, before there reigned any king over the children of Israel." "And Samlah died, and Saul of Rehoboth by the river (*hannahar*) reigned in his stead." This place has been identified with the modern Rahabah, on the eastern bank of the Euphrates, three miles and a half south-west of Mayadin. It has been thought that the city now under notice is represented by ruins on the Euphrates; but that this cannot be so is clear from the text, in which Rehoboth is shown to stand in the same relation to Nineveh as Calah and Resen. The likelihood is, that in later times Rehoboth was incorporated with the great city Nineveh itself.

Calah (v. 11). Some have tried to identify Calah with the "Halah" mentioned in 2 Kings xvii. 6—"In the ninth year of Hoshea the king of Assyria took Samaria, and carried Israel away into Assyria, and placed them in Halah and in Habor by the river of Gozan, and in the cities of the Medes." (See also xviii. 11; 1 Chron. v. 26). But the geographical notices linked up with Halah, make this little likely. Halah was on the Chebar or river of Gozan, and Gozan was the region known to the Greeks as Gauzanitis—the modern Kaushan. Others have associated Calah with the Nimroud ruins, and have claimed for it the honour of having been a royal Assyrian residence (B.C. 925 to about 720). "Colonel Rawlinson," says Mr. Layard, "reads the name of Levkeh or Calah on the bricks from Nimroud, and consequently identifies the ruins with the Calah of Genesis, one of the primitive cities of Assyria; but I cannot believe that the four cities mentioned in the Bible should have stood within so short a distance of each other,

particularly as we are told that Resen, a great city, was between Nineveh and Calah." It is much more likely that the modern representative of Calah is Kalah Sherghat, a mound nearly 5000 yards in circumference, and in some places upwards of one hundred feet high, on the right bank of the Tigris, forty miles to the south of Nimroud.

Resen (ver. 12). If Nineveh is identical with the modern Kouyunjik, and Calah with Kalah Sherghat, the site of Resen must be looked for between these. About four geographical miles south of the former, and nine north of the latter, lie the great mounds of Nimroud. There seems little doubt that Nimroud corresponds with the Resen of Genesis x. The remains bear testimony to its former magnificence, and show that the city had maintained its importance even long after the decay of the Assyrian power.

In naming the Hamite tribes (ver. 6–20), special reference is also made to the Philistines and the Canaanites. The former will be considered under chap. xxi. 32, and the geographical notices connected with the latter will be referred to under chap. xii. 5.

Among the Shemites, Eber and Peleg are marked out from the rest. Shem is said to have been "the father of all the children of Eber" (ver. 21)—an expression which may be held to intimate, that under the name of Hebrews, other Shemitic families besides the Jews were originally ranked. It is also noteworthy that the Hebrews proper were not descended from the eldest of the sons of Shem, but from Arphaxad, the third son, through Peleg the eldest son of Eber. Peleg's brother's name was Joktan. The former was the immediate progenitor of the Hebrews, the latter of the Arabians. Here again we see the close affinities which existed between Mesopotamian Shemites and those who wandered into the boundless tracts of Arabia. Eber's first-born was named Peleg, "for in his days was the earth divided"—words which carry our attention forward to the division of the earth consequent on the confusion of tongues, with the narrative of which the next chapter opens.

Mesha (ver. 30) has been identified with Mesene, an island at the mouth of the Tigris; and Sephar (ver. 30) with Isafar, a place situated farther east, where great ruins have been discovered, believed to be those of the ancient Sephar. Good cause can be shown for separating Sephar from "the mount," and for rendering this passage thus—"from Mesha, towards Sephar, *to* the mount of the east."

GENESIS XI.

AFTER the general outline of chapter x., given above, such points were selected for special notice as either may not again occur, or may have important bearings both on Scripture history and on universal ethnology. These notices, and such as are to be connected with the confusion of tongues, will, I trust, be found of some value in shedding light on the first locations of the human race after the deluge, and especially in being helpful to the reader when we come to look at the question as to a plurality of original races of men. Chapter xi. contains, first, the record of the attempt to rear a city and the Tower of Babel; and, second, the genealogy of Shem, in the line of his third son, Arphaxad. This list brings us up to the death of Abraham's father, Terah, in Haran—"And the whole earth was of one language, and of one speech. And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there. And they said one to another, Go to, let us make brick, and burn them throughly. And they had brick for stone, and slime had they for mortar. And they said, Go to, let us build us a city, and a tower whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth. And the Lord came down to see the city and the tower, which the children of men builded. And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do: and now nothing will be restrained from them, which they have imagined to do. Go to, let us go down, and there confound their language, that they may not understand one another's speech. So the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city. Therefore is the name of it called Babel; because the Lord did there confound the language of all the earth: and from thence did the Lord scatter them abroad upon the face of all the earth" (ver. 1–9).

When Noah left the ark he was met by the command—"Be fruitful, and multiply, and replenish the earth" (ix. 1). The building of the Tower of Babel was an attempt to interfere with the purpose of God concerning the peopling of the earth. The descendants of Noah believed

that they would be safer and more ready for mutual co-operation, in order to the carrying out of cherished designs, if the whole human family kept together. But this was not the design of God. The fruits of a corresponding state of matters before the deluge had appeared in the rapid growth of sin, in all but universal apostasy from God, and in the prevalence of awful violence among men. The same forces had come into play; and men, actuated by similar motives, seemed resolved to make the most of them in gratifying natural tendencies to wander away from God, and to seek their strength and comfort in the help of others or in their own devices. They said, "Go to, let us build us a city, and a tower whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad on the face of the whole earth." The popular notion, that the building of the tower was an effort to get beyond the reach of any other deluge that might come on the earth, is absurd. But any efforts by a system of rigid centralization to realize once more the state of matters which had existed before the flood could not but be hateful in the sight of God. The earth would have been allowed to lie waste, and every form of sin would have rushed up again into giant proportions. Atheism, licentiousness, and violence would have soon reigned over the whole race of man. This was to be avoided, and the tendencies thereto checked. The unity of language, which tended to foster it, was interfered with. God confounded their language, that they understood not one another's speech. They left off to build the city, which was called Babel; "because the Lord did there confound the language of all the earth." The form of expression, suggestive of the Trinity, which has already been noticed (i. 26), occurs here again. The Lord said, "Let us go down, and there confound their language."

The materials used in building those parts of the city and the tower which had been put up before the divine interference were burnt bricks and asphalt. "They had brick for stone, and slime (*hhemar*) had they for mortar." Such materials are found to have been used in the erection of several of the magnificent structures whose ruins have been brought to light by recent researches in the neighbourhood of Babylon. Herodotus, when referring to the great moat which surrounded the city, and to the size and adornings of the capital of Babylonia, says—"And here I think I ought to explain how the earth taken out of the moat was consumed, and in what manner the wall was built. As they dug the moat they made bricks of the earth which was taken out; and when they had moulded a sufficient number, they baked them in kilns. Then making use of hot asphalt for cement, and laying wattled reeds between

the thirty bottom courses of bricks, they first built up the sides of the moat, and afterwards the wall itself in the same manner" (Her. i. 178).

The same author, in describing the city, refers to "a solid tower of one stade both in length and breadth, and on this tower rose another, and another upon that, to the number of eight. And an ascent to these is outside, rising spirally round all the towers" (p. 181). Ancient authors generally agree in the description of this tower, which came in time to be regarded the completed form of the tower begun in the days of Eber's son, Peleg. Much research has in modern times been spent by Rich, Rennel, Rawlinson, Layard, &c., in attempts to identify the tower described by Herodotus and others. The subject is of some interest in connection with the text—not, indeed, as if, this being determined, we would be warranted in concluding that this tower had ever been built on the foundations of that one which was left unfinished when God "confounded the language of men," but only as showing the influence of the tradition on the inhabitants of Babylonia, in leading them to raise such structures for purposes of idolatrous worship. Several Babylonian mounds have had the honour assigned to them of representing the Tower of Babel. The mound which has had most attention turned to it is one on the banks of the Euphrates, about forty-six miles south-west of Baghdad. This is known as the *Birs Nimroud.* Mr. Layard has fully described it in his work on Nineveh and Babylon. "The Birs Nimroud," he says (pp. 495–499)—"'the palace of Nimrod' of the Arabs, and 'the prison of Nebuchadnezzar' of the Jews; by old travellers believed to be the very ruins of the Tower of Babel; by some, again, supposed to represent the temple of Belus, the wonder of the ancient world; and by others to mark the site of Borsippa, a city celebrated as the high place of the Chaldæan worship—is a vast heap of bricks, slag, and broken pottery. The dry nitrous earth of the parched plain, driven before the furious south wind, has thrown over the huge mass a thin covering of soil, in which no herb or green thing can find nourishment or take root. Thus, unlike the grass-clothed mounds of the more fertile districts of Assyria, the Birs Nimroud is ever a bare and yellow heap. It rises to the height of 198 feet, and has on its summit a compact mass of brickwork 37 feet high by 28 broad, the whole being thus 235 in perpendicular height. Neither the original form nor object of the edifice of which it is the ruin have hitherto been determined. It is too solid for the walls of a building, and its shape is not that of the remains of a tower. It is pierced by square holes, apparently made to admit air through the compact structure. On one

side of it, beneath the crowning masonry, lie huge fragments torn from the pile itself. The calcined and vitreous surface of the bricks, fused into rock-like masses, show that their fall may have been caused by lightning; and as the ruin is rent almost from top to bottom, early Christian travellers, as well as some of more recent date, have not hesitated to recognize in them proofs of that Divine vengeance which, according to tradition, arrested by fire from heaven the impious attempt of the first descendants of Noah.

"Even the Jews, it would appear, at one time identified the Birs Nimroud with the Tower of Babel. Benjamin of Tudela gives the following curious account of the ruin:—'The tower built by the dispersed generation is four miles from Hillah. It is constructed of bricks, called *Al-ajur* (the word still used by the Arabs for kiln-burnt bricks); the base measures two miles, the breadth two hundred and forty yards, and the height about one hundred canna. A spiral passage, built into the tower (from six to ten yards), leads up to the summit, from which there is a prospect of twenty miles, the country being one wide plain, and quite level. The heavenly fire which struck the tower split it to its very foundation.' No traces whatever now remain of the spiral passage spoken of by the Jewish traveller, and it is most probable that he was misled in describing it, by the appearance of the ruins.

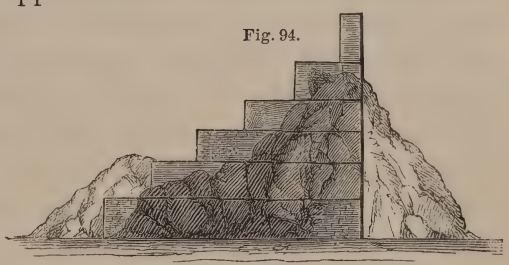
"Whatever may have been the original edifice, of which the Birs Nimroud is the ruin, or whoever its founder, it is certain that as yet no remains have been discovered there more ancient than of the time of Nebuchadnezzar. Every inscribed brick taken from it—and there are thousands and tens of thousands—bears the name of this king. It must, however, be remembered, that this fact is no proof that he actually founded the building. He may have merely added to, or rebuilt, an earlier edifice. Thus, although it would appear by the inscriptions from Nimroud, that the north-west palace was originally raised by a king who lived long before him, whose name occurs on the walls of that monument, yet not one fragment has been found of the time of that earlier monarch. Such is the case in other Assyrian ruins. It is, therefore, not impossible that at some future time more ancient remains may be discovered at the Birs.

"I will now describe the ruins. It must first be observed, that they are divided into two distinct parts, undoubtedly the remains of two different buildings. A rampart or wall, the remains of which are marked by mounds of earth, appears to have inclosed both of them. To

the west of the high mound, topped by the tower-like pile of masonry, is a second, which is larger but lower, and in shape more like the ruins on the eastern bank of the Euphrates. It is traversed by ravines and water-courses, and strewed over it are the usual fragments of stone, brick, and pottery. Upon its summit are two small Mohammedan chapels, one of which, the Arabs declare, is built over the spot where Nimroud cast the patriarch Abraham into the fiery furnace, according to the common Eastern tradition. Not having been able to excavate in this mound, I could not ascertain whether it covers the remains of any ancient building.

"Travellers, as far as I am aware, have hitherto failed in suggesting any satisfactory restoration of the Birs. It is generally represented, without sufficient accuracy, as a mere shapeless mass. But if examined from the summit of the adjoining mound, its outline would at once strike any one acquainted with the ruins to the west of Mosul. The similarity between them will be recognized, and it will be seen that they are all the remains of edifices built upon very nearly, if not precisely, the same plan. The best published representations of the Birs Nimroud, appear to me to be those contained in a memoir of that accurate and observing traveller, Mr. Rich. I give one of his sketches, over which I have placed a proposed restoration of the form of the original building; the present shape of the mound, as in Mr. Rich's sketch, being in dark outline.

Fig. 94.



Birs Nimroud—Proposed Restoration.

"It will be perceived that the mound rises abruptly from the plain on one face, the western, and falls to its level by a series of gradations on the opposite. Such is precisely the case with the ruins of Mokhamour, Abou-Khameera, and Tel Ermah. The brickwork still visible in the lower parts of the mound, as well as in the upper, shows the sides of several distinct stages or terraces. I believe the isolated mass of masonry to be the remains of one of the highest terraces, if not the highest; and the whole edifice to have consisted, on the eastern or south-eastern side, of a series of stages rising one above the other, and on the western or north-western, of one solid perpendicular wall. The brick of the building may have been painted—as, according to Diodorus Siculus, were the palaces of Babylon—with hunting or sacred scenes, and may have been decorated with cornices or other architectural ornaments. There were

no means of ascent to it. Nor was it accessible in any part, unless narrow galleries were carried round it at different elevations. The diagram shows how far the proposed restoration suits with the actual form of the ruins; but it must be borne in mind that the number of terraces is merely conjectural, and that there might have been more or less. The upper stage may have been larger, and the proportions of the others altogether different. The wood-cut is merely meant to give what I conjecture to have been the general form of the edifice.

"The edifice, of which this remarkable ruin is the remains, was built of kiln-burnt bricks. Fragments of stone, marble, and basalt, scattered amongst the rubbish, show that it was adorned with other materials. The cement by which the bricks were united is of so tenacious a quality, that it is almost impossible to detach one from the entire mass. The ruin is a specimen of the perfection of the Babylonian masonry."

The unity of language could not but favour in the highest degree those strong tendencies to an ambitious centralization, which were directly opposed to the purpose of God concerning the peopling of the whole earth which had been given to man for a dwelling. It would have, moreover, ministered much strength to man as set on the propagation of his evil desires and lusts. And thus, as we have seen, the interference at Babel. It will be readily granted by all who have given themselves to the study of the history of language, free from bias and preconceived theory, that apart from this account of the transactions in the "land of Shinar," the existing varieties of language is a profound mystery. The influence of social habits, the physical peculiarities of certain countries, and the intercourse of different tribes, go far in shedding light upon the varying aspects of any one great leading branch of human speech, and thereby on the formation of dialects. But these are wholly at fault when appealed to for an explanation of the differences, and at the same time the close relations, which obtain among the leading branches themselves. On these points we are without a guide, unless we accept the account of the inspired narrative. Verse 1 points to one primeval language — "The whole earth was of one language, and of one speech." Several questions of great interest and importance may be raised here. Does this primitive tongue still exist? Have we traces of it in the great leading divisions of language? Or, did it attain form and fulness by slow growth, in the midst of difficulties, and in the course of great ages? In a word, what do we know concerning the origin of language, and have we any clue to the original form of human speech?

The question as to origin has, from earliest times, been a favourite with the speculative and the curious. Theories without number have been formed, and experiments have been carefully made in the hope of finding corroborative proofs. The results have never been valuable; they have, however, sometimes been absurd. The father of history tells us of an Egyptian king who made an experiment on this subject, which was in no respect more successful than one much more recent of the same kind by James IV. of Scotland. "The Egyptians," he says, "before the reign of Psammitichus, considered themselves to be the most ancient of mankind; but after Psammitichus having come to the throne, endeavoured to ascertain who were the most ancient, from that time they considered the Phrygians to have been before them, and themselves before all others. Now, when Psammitichus was unable, by inquiry, to discover any solution of this question, who were the most ancient of men, he devised the following expedient:—He gave two new-born children of poor parents to a shepherd, to be brought up among his flock in the following manner: he gave strict orders that no one should utter a word in their presence, that they should lie in a solitary room by themselves, and that he should bring goats to them at certain times, and that when he had satisfied them with milk he should attend to his other employments. Psammitichus contrived and ordered this, for the purpose of hearing what word the children would first articulate, after they had given over their insignificant mewlings; and such accordingly was the result. For when the shepherd had pursued this plan for the space of two years, one day as he opened the door and went in, both the children falling upon him, and holding out their hands, cried 'becos.' The shepherd when he first heard it, said nothing; but when this same word was constantly repeated to him whenever he went and tended the children, he at length acquainted his master, and by his command brought the children into his presence. When Psammitichus heard the same, he inquired what people called any thing by the name of 'becos;' and on inquiry, he discovered that the Phrygians call bread by that name. Thus the Egyptians, convinced by the above experiment, allowed that the Phrygians were more ancient than themselves!" Attempts to discover the primeval tongue must be made in another direction. Only by the comparative study of the great leading branches can we hope to get any light, from independent sources, on the fact mentioned in verse first, "that the whole earth was of one speech." As the bearings of this on the question of the unity of the race of man, are of the most important and

interesting kind, a summary of the views held in regard to it will be found useful.

"Languages," says Humboldt, "compared together and considered as objects of the natural history of the mind, and when separated into families according to the analogies existing in their internal structure, have become a rich source of historical knowledge; and this is probably one of the most brilliant results of modern study in the last sixty or seventy years. From the very fact of their being products of the intellectual force of mankind, they lead us, by means of the elements of their organism, into an obscure distance, unreached by traditionary records. The comparative study of languages shows us that races now separated by vast tracts of land are allied together, and have migrated from one common primitive seat; it indicates the course and direction of all migrations, and, in tracing the leading epochs of development, recognizes, by means of the more or less changed structure of the language, in the permanence of certain forms, or in the more or less advanced destruction of the formative system, *which* race has retained most nearly the language common to all who had emigrated from the general seat of origin."—(Cosmos, vol. ii.) The comparative study of language ultimately led to the acknowledgment of three great main groups, which were named after the three sons of Noah. Perhaps unfortunately; because many facts connected both with the physical features of different tribes, and with the languages spoken by them, show that the confusion of tongues did not influence the tribes as such, but the descendants of Noah as men. In a word, it is very doubtful if all the Semitic families received one form of speech, the Japhetic another, and the Hamitic a third. The generally acknowledged strong resemblances between the so-called Hamitic and Semitic branches, seems of itself to indicate that the transaction at Babel did not regard tribes as such. In using these terms, therefore, this is to be kept in mind. It is no doubt true, in a general sense, that for the most part, one physical type is found associated with one leading linguistic type. Where, for example, you find the so-called Japhetan type of language, it exists in connection with the peculiar features, social characteristics, and even mental qualities which distinguish the Japhetan from the other families of man.

But as ethnology advances and reacts on the study of language, it will be increasingly felt, that more general terms than Semitic, Japhetic, and Hamitic must be adopted generally as names of the leading branches of language. This, indeed, has already been done by

some philologists; and even those who keep strictly by these terms in naming the "Stocks," from which subordinate branches have sprung, attach to them a variety of formative principles, which virtually show that the want of a more general terminology is felt. In the scheme of the late Chevalier Bunsen, the terms "Semitic," "Iranian," and "Turanian," are used to indicate the leading Stocks. The sketch which he has given of these, and of their subdivisions, in his "Outlines of the Philosophy of Universal History applied to Language and Religion," supplies an admirable illustration of the influence of the "confusion of tongues" on language. The conclusions to which he comes, after his survey, are also of great importance. "Our historical researches," he says, "respecting language, have led us to facts which seem to oblige us to assume the common historical origin of the great families into which we found the nations of Asia and Europe to coalesce. The four families of Turanians and Iranians, Khamites and Shemites, reduced themselves to two, and these again possessed such mutual material affinities, as can neither be explained as accidental or as being so by a natural external necessity, and therefore imply a common descent." Similar principles of investigation applied to the African languages lead to the same conclusion.

In Bunsen's scheme we have—

I. The Semitic Stock; and under this head he gives the following groups:—A. *Chamitism*, or ante-historical Semitism, the Chamitic deposit in Egypt; its daughter, the Demotic Egyptian; and the Coptic, its end. B. *The Chaldee:* first, the original Babylonian, or the ancient sacred language of Babylonia and mother of historical Semitism; secondly, the Chaldee of Babylonia and Mesopotamia, or the most ancient North Semitic stock; thirdly, its latest phasis, the Jewish and Christian Chaldee in the book of Daniel and the Targum, and in the Christian Chaldee or the Syrian (Aramæan). C. *The Arabic*, or South Semitic stock, in its two branches: the Himyaric, with its Abyssinian deposit; and the language of Northern Arabia, with the Amalekite dialect of the Sinaitic inscriptions. D. *The Hebrew*, or the language of the Bible from the Mosaic records to the age of the Maccabees, with its dialect, the Canaanite language (Phœnician and Carthaginian). It forms the younger branch of the North Semitic stock.

II. The Iranian Stock, with its subordinate branches. The *first* great branch of this stock are the Celts, once spread over Asia Minor, Spain, France, Belgium, Helvetia, a great part of Germany, and

throughout the British Isles: it lives still in the Kymric (of which the Bas Breton is a corrupted form), as the language of Wales, and in two cognate forms, the Gaelic and the Erse, as the native tongue of the Highlands of Scotland, and of the whole of Ireland. This family he considers as representing the most ancient formation of the whole stock. The *second* branch is the *Thracian* or *Illyrian*, once spread on the Dnieper, the Hellespont, and in Asia Minor, in which countries it was followed, and partly supplanted, by the *Pelasgian*, or ante-historical formation of the Hellenic. . . . . The languages of the Epirots and Macedonians belong to this family, which is now represented in those countries by the Skipetarian, the language of the Albanians or Arnauts. The *third* is the *Armenian*, the language spoken during the historical age in the country which, according to the most ancient traditions of the Semites, was the cradle of mankind, and again the primeval seat of man after the deluge of Noah. The *fourth* formation he proposes to call the *Arian*, or the Iranian stock as presented in Iran Proper. Here we must establish two great subdivisions. The one comprises the nations of Iran Proper, or the Arian stock, the languages of Media and Persia. Its most primitive representative is the *Zend*. Under Zend he ranks the language of the Assyrian cuneiform inscriptions, of the sacred books of the Parsees, of the modern Persians, of the Affghans, and all the Arian languages of India, represented by the Sanskrit and its sub-branches. The *fifth* branch is the *Hellenico-Italic*, or the Greek and Roman, and all the Italic languages, with the doubtful exception of the Etruscan, which at all events was a mixed language, having a groundwork kindred to Greek and Latin, with a great barbarian admixture. Under Italic tongues he understands the languages of Italy Proper, south of the Apennines, and of the Italic isles. The *sixth* branch is that of the *Slavonic* nations in their two great branches; the eastern, comprising the old Slavonic of the Bible and of Nestor, the Russian, Servian, Croatic, and Wendic; and the western, the languages of the Tschekhs (Bohemians), Slovacs, Poles, and Servians. These languages, once prevalent in the north of Germany, are now spoken from the Adriatic to the Dnieper. In the ancient world, this great, powerful, and much-divided family is represented by the *Sauromatæ* of the Greeks, or the *Sarmatæ* of the Romans, a nation living on the Don and near the Caspian Sea. The *seventh*, nearly allied to this and the next branch, that of the *Lithuanian* tribes, among which the ancient Prussian represents the most perfect form, is in some respects nearer to the Sanskrit than any other existing tongue.

Finally, the *Teutonic nations* in their two families, the Scandinavian and German. The first has preserved its most ancient form in the Icelandic; the Swedish and Danish are the modern daughters of the old Norse language of Scandinavia. The second is the German. From this Bunsen traces the Flemish, Dutch, English, and, with a Latin groundwork, the Italian, French, and Spanish.

III. The Turanian Stock.—The separation of the Turanian stock took place long before the ancestors of the Arian family left their common home; for wherever these Arian colonists penetrated, in their emigrations from east to west, they found the land occupied by the wild descendants of Tur. Through all periods of history, up to the present day, by far the largest share of the earth belongs to Tur; and the countries reclaimed by Shem and Japhet, although they mark the high road of civilization, and comprehend the stage on which the drama of ancient and modern history has been acted, are but small portions if compared with the vast expanse of the empire of the Turanian speech. The Arian and Semitic languages occupy but four peninsulas—India, Arabia, Asia Minor, and Europe; all the rest of the primeval continent of Asia belongs to the descendants of Tur. The chief branches of the Turanian stock all radiate from a common centre; though they are not, like the members of the Semitic and Arian families, descended from one common parent. Their geographical distance from China seems to indicate the successive dates of their original separation; and the different degrees of grammatical perfection to which they have each attained may likewise be measured by their distance from Chinese monosyllabism. There are two divisions — the Northern and the Southern. The northern division comprehends the Tungusic, Mongolic, Tataric, Samoïedic [Basque], and Finnic branches. The southern division comprehends the Taï, Malaïc, Bhotîya, and Tamulic branches. In the northern division the Tungusic and Mongolic, in the southern the Taï and Malaïc branches, are the nearest neighbours to the Chinese, not only in geographical position, but also by the low degree of their grammatical development. . . . . That all these branches of speech on the Asiatic continent form a historical unity in themselves and as opposed to Semitic and Arian races, is a conviction which has been gaining strength from year to year; and the connecting links of several branches have now been laid open by the skill of comparative philologists. Much, however, remains still to be done before the mutual relation of all these branches can be considered as finally settled. A farther extension of this nomadic family of speech has been hinted at,

not only with regard to America, but even to Africa. In the former case, the bridge on which the seeds of Asiatic dialects could have been carried to the New World is clearly indicated by the researches of physical science; in the latter all is still conjecture, except this, that, besides the Semitic type of some African languages north of the equator, there is another grammatical character impressed on African idioms, such as the Hottentot, which, by its mechanical perfection and somewhat artificial complication, invites a comparison with the grammatical system of the descendants of Tur.

Bunsen's admirable outline will enable the reader to follow the effects of the confusion of tongues even up to recent times, not merely in the variety of languages, but in the traces of one primitive formation to be met with in them all. The outline, moreover, sheds light on the apparent complications of the great families of the human race. In very many cases it will be found that the peculiarities of language which were thought to mark out independent tribes, are nothing more than subdivisions of one of the great stocks named above, and that the tribes using them are offshoots from the general family. And it is worthy of note, that the dialects and subdivisions differ from the original stock in proportion to the geographical distance from the regions in which the mother branch chiefly dwells. It is thus with language as with plants, whose appearance changes in proportion as they are nearer to or more remote from their natural geographical area. The alterations in some cases are so striking, that it is often difficult to believe that the dwarfed forms of many plants now cultivated in Britain are specifically the same with those which grow in rank luxuriance in India or at the Cape.

Bunsen draws one other conclusion from the comparative review of languages, besides that of the original unity of language and of the human race, with which we cannot agree. He says—"Those strata of organic structure are, therefore, necessarily underlaid by an inorganic, or, as it were, crystalline language, which, according to all probabilities, is preserved in the ancient Chinese, on which the Turanian formations are bordering internally, as they do geographically. This development requires a period of time which may appear very long according to the traditional ideas of the extent of human history; but, in fact, is very short and recent, if we look back upon the history of the earth and of her lower productions." He thus claims a far higher antiquity for the human race than is assigned to it by the Scriptures. In this, Dr. Max Müller and other philologists agree with him. But it is much the same

here as it is in geological calculations regarding the rate at which mud is depositing for the formation of rocks. It is not safe to argue that the rate at which, in known circumstances, the deposit is made, must have been that at which, in unknown circumstances, ancient strata were laid down. If we take as a starting point the now generally acknowledged facts that there are three leading stocks of language, and that these were originated by the transaction at Babel, we have from 2224 B.C., the date of the dispersion, to 1863 A.D. a period of 4087 years for the formation and growth of the subdivisions. We are apt to form our estimate according to the rate of change in modern times. But this is a most erroneous standard. The grammatical structure, and in a great measure even the vocabulary, of modern languages, are fixed by a highly developed literature. Nations, moreover, are not in that changing condition which characterized them in those early times. And yet, even in such circumstances, we see changes in language brought about in a comparatively short time. Emigrants from the great centres of civilization to remote countries, where they meet with physical characteristics and with tribes of men wholly unlike those to which they had been accustomed, are found in a very short time to alter greatly their mother tongue. "If we observe how Latin was changed into Italian, Spanish, Portuguese, Provençal, French, &c.—how Latin, again, together with Greek, and the Celtic, the Teutonic, and the Sclavonic languages, together likewise with the ancient dialects of India and Persia, must have sprung from an earlier language, the mother of the whole Indo-European or Aryan family of speech—if we see how Hebrew, Arabic, and Syriac, with several minor dialects, are but different impressions of one and the same common type, and must all have flowed from the same source, the original language of the Semitic race—and if we add to these two at least one more well established family of speech, the Tauranian, comprising the dialects of the nomad races scattered over Central and Northern Asia—if we watch this stream of language rolling on through centuries in these three mighty arms which, before they disappear from our sight in the far distance, clearly show a convergence towards one common source—it would seem, indeed, as if there were an historical life inherent in language, and as if both the will of man and the power of time could tell, if not on its substance, at least on its form. . . . . The historical changes of language may be more or less rapid, but they take place in all times and in all countries. They have reduced the rich and powerful idiom of the poets of the Veda to the meagre and impure jargon of the modern Sepoy. They

have transformed the language of the Zend-Avesta, and of the mountain records of Behistun, into that of Ferdusi and the modern Persians; the language of Virgil into that of Dante; the language of Urfilas into that of Charlemagne; the language of Charlemagne into that of Goethe." (*Max Muller.*) Mr. Moffat, in his "Missionary Scenes and Labours in Southern Africa," gives a striking illustration of the way in which, in a very short time, a new dialect may be formed. He tells us that such South African tribes as require to be long absent in hunting excursions, or in war, leave their children behind with their aged relatives. Sympathies draw the children together, and they come to communicate by sounds and words originating in their peculiar circumstances. The result comes to be, that on the return of the parents, the young people keep together, and a tribal division is formed, whose language differs in a remarkable way from that of the parent family. For many generations after the dispersion this unsettled condition, favourable to great linguistic changes, must have obtained universally among men. A space of more than four thousand years would thus be amply sufficient for the development of language to the extent which even now obtains.

The following scheme may be taken as a summary of the foregoing remarks:—

A. Before the Dispersion.

One Primeval Language.

B. After the Dispersion.

I. *The Semitic Stock.*	II. *The Iranian Stock.*	III. *The Turanian Stock.*
Egyptian.	Celtic.	Tungusic.
Chaldee.	Thracian.	Mongolic.
Arabic.	Armenian.	Tartaric.
Hebrew.	Aryan.	Samöidic.
Sub-branches.	Hellenico-Italic.	Basque.
Coptic.	Slavonic.	Finnic.
Aramæan.	Lithuanian.	Taï.
Abyssinian.	Teutonic.	Malaïc.
Phœnician.		Tamulic.

The general conclusions reached by this survey are:—1st, That human language was originally the direct gift of God to man. 2nd, That at Babel he showed his sovereignty over his own gift in interfering with it, that it might subserve his purposes after the flood,

as it had done before. 3rd, That language was originally one. And 4th, As a sound and legitimate deduction from this, that the human race was from the beginning one. There are, however, certain theories current, in which these conclusions are held to be unwarranted. The most recent, and perhaps the ablest exposition of one of these theories, is that given at the meeting of the British Association for the Advancement of Science (Manchester, 1861), by Mr. Crawfurd, President of Section E—Geography and Ethnology. "The periods," says Mr. Crawfurd, "usually assigned for man's first appearance on earth, necessarily dated only from the time when he had already attained such an amount of civilization, as to enable him to frame some kind of record of his own career, and took no account of the many ages which must have transpired before he could have attained that power. Among the many facts which attested the high antiquity of man, was the formation of language. Language was not innate, but adventitious—a mere acquirement, having its origin in the superiority of the human understanding. The prodigious number of languages which existed was one proof that language was not innate, some with a very narrow range of articulate sounds, others with a very wide one; some confined to single syllables, and others had many; some being very simple and others of a complex structure—thus implying that each tongue was a separate and distinct creation, or that each horde formed its own independent tongue. A whole nation might lose its original tongue, and in its stead adopt any foreign one. The language which was the vernacular one of the Jews three thousand years ago, had ceased to be so for above two thousand years, and the descendants of those who spoke it were now speaking an infinity of foreign tongues—sometimes European, and sometimes Asiatic. Languages derived from a single tongue of Italy, had superseded the many native languages which were once spoken in Spain, in France, and in Italy itself. A language of German origin had nearly displaced, not only all the native languages of Britain and Ireland, but the numerous ones of a large portion of America. Some eight millions of negroes were planted in the New World, whose forefathers spoke many African tongues, which tongues had nearly disappeared, having been supplanted by idioms derived from the German and Latin languages. It necessarily followed that man, when he first appeared upon the earth, was destitute of language. Each separate tribe formed its own language; and there could be no doubt that in each case the framers were arrant savages, which was proved by the fact that the rudest tribes ever discovered had already completed the

task of forming a perfect language. The first rudiments of language must have consisted of a few articulate sounds, in the attempts made by the speechless but social savages to make their wants and wishes known to each other; and from those first efforts to the time in which language had attained the completeness which they found it to have reached among the rudest tribes ever known to us, countless ages must be presumed to have elapsed. . . . . The conclusion was inevitable that the birth of man was of vast antiquity. He came into the world without language, and in every case had to achieve the arduous and tedious task of constructing speech, which, in the rudest form in which it was now found, must have taken many thousands of years to accomplish."

The Chevalier Bunsen, Dr. Max Müller, and others, who hold the original unity of language and of the human race, yet demand a far higher antiquity for man than is assigned to him in the Scriptures, in order to leave time for the growth of language. Mr. Crawfurd is influenced by the same consideration, and, unlike those now referred to, rushes hastily to the conclusion that man must have been at first destitute of a language—a belief which naturally enough demanded that the creation of man should be thrown back eight or ten thousand years earlier than the most protracted scheme of Bible chronology will admit of. Implied in this also, is the revival of the long-exploded notions that the primal condition of man was that of a savage, and that civilization is the state farthest removed from that in which man was at first created.

The discussion on Mr. Crawfurd's paper brought out many points in refutation. Mr. Greswell thought that "although the theory advanced might be ideally perfect and theoretically incontrovertible, there was not a particle of truth in it. Instead of the term advancement which had been used in the paper, he would substitute the words degradation and deterioration. They believed that the first created man was perfect. Could any one suppose that our first parents had not the means of communicating as rational creatures? He considered that language was not given naturally, but supernaturally, and formed a part of man's creation. There were various arguments which showed that a very few thousands of years measured the time of the existence of man. Homer was supposed to have existed about one thousand years before Christ, and the most perfect form of language ever used was the Greek; and therefore to speak of him and his contemporaries as barbarians was most absurd. There were also as perfect productions in the Hebrew as

in any language whatever. Therefore, to suppose language went on uniformly, and that the antiquity of man could be calculated by observation of the changes of languages, was in his opinion altogether a fallacy, the truth being that instead of advancing, language had changed in the way of degradation. The question of inventing a language was something totally different."—"Dr. Hincks had been startled by the remarks of the President. It had fallen to his lot to study a good deal very ancient languages, and the conclusion he had come to was the very reverse of what Mr. Crawfurd had drawn from modern languages. Mr. Crawfurd appeared to think that all those languages had had independent origins—that every tribe of barbarians invented a language for itself. Looking back to all the most ancient languages he found, that although there were marked differences, which rendered them utterly unintelligible to one another, there were points in common which, when fairly examined, proved that those languages had all a common origin. The people separated—were divided; some parts of the ancient language survived in one portion, some in another, and so on. None of the languages retained even any large part of the original, but each, probably, sufficient to identify it as a part of one original language. As a proof of this he remarked that a brick which had been discovered in Babylonia contained the name of the very oldest king, and also that of the Belshazzar of Scripture, the very latest mentioned of the Babylonian sovereigns, the inscription being stated to have been made by the father of the latter."

I have sought to give this subject as great prominence as possible, because it will continue to be discussed under aspects which will bring it, with greater frequency than in the past, into the domain of Scripture history, which views like Mr. Crawfurd's would wholly pervert.

When the descendants of Noah reached the "plain in the land of Shinar," they are described in the authorized version as "journeying from the east" (ver. 2). But if they reached Lower Mesopotamia, in which Shinar lay, as they wandered from the region of Ararat, their migration must have been from the north. The usual answer to this has been, that we are not to look here for exactness in geographical references. This, however, is not satisfactory. The remarks on the references to the men and the countries which occur in the tenth chapter, will have shown that the sacred historian is peculiarly careful to indicate the places of primitive settlement, as well as the genealogical position of the people mentioned. The names, in some cases, point distinctly to the localities occupied, and sometimes even to the outstanding physical features of

the districts. Thus Aram or *highlands*, Canaan or *lowlands*, Ophir or *rich lands*, Madai or *midlands*, Mizraim or *the two Egypts*, &c. We are thus warranted to associate a definite meaning with the word *east*. We have already noticed it in connection with Eden. The symbolic presence of Jehovah was in the east of Eden, and the blessed garden was in the east of the land of Eden. So likewise the reference to the east (x. 30) after Sephar.

There are two words chiefly used in the Old Testament for the east, namely, *Kedem* or that front of the looker, and *Mizrach* or the sun-rising. The former term originated in the habit of characterizing the *part before them*, when they turned their faces to the rising sun, as the east. Behind them was the west, to the right the south, and to the left hand the north. The oriental mode of determining geographical bearing thus differed from ours. We look to the north, and the south is the direction behind us, the east that on our right hand, and the west that on our left. This difference being kept in mind, will make clear many references to geographical bearings which cannot be otherwise understood. When both terms are used together, we translate them "on the east, eastward"—a somewhat uncertain form of expression; the true import being, *in front*, in the direction of the rising sun. In explaining passages in which the east is named, it will thus be important to keep in mind the locality in which the writer lived. The Israelite standing on the shores of the Great Sea would speak of the territory between him and the Jordan as in the east; while another standing on the banks of the Jordan would speak of the same region as in the west. As regards the use of the term in verse 2, there are two modes of explaining it. 1. The preposition prefixed to *Kedem*, which is rendered *from* in our translation, might be rendered *in*. Thus a writer in the position of Moses would naturally say, "as they journeyed *in* the east," when he wished to mention the tribes which wandered in the districts bordering on the Euphrates. 2. If the expression be associated rather with the direction in which the tribes journeyed than with the view of the writer, we would have to suppose that the chief waves of population had been to the south-west from Ararat, and that they again returned to the east, and "found the plain in the land of Shinar."

The different senses assigned to the word may be thus classified:—
First, To mark out one of the four quarters of the heavens:—

> "The mighty God, even the Lord, hath spoken, and called the earth
> From the rising of the sun unto the going down thereof.—(Ps. l. 1.)

The rising of the sun (*mizrach*), the orient, the east—

> "As far as the east is from the west,
> So far hath he removed our transgressions from us."—(Ps. ciii. 12.)

The same word (*mizrach*) is used here, and so in Malachi i. 11—"For from the rising of the sun to the going down of the same, my name shall be great among the Gentiles. In the New Testament the Greek word (*anatole*) rendered "east," is the proper equivalent of the Hebrew word named above. Its true meaning is the sun-rising—"And I say unto you, that many shall come from the east and the west, and shall sit down with Abraham, and Isaac, and Jacob, in the kingdom of heaven" (Matt. viii. 2). *Second*, To designate one of the four quarters of the world. This sense is, with the other, implied in the passage last quoted. It has evident allusion to such expressions as "the four corners of the earth" (Isa. xi. 12); "And upon Elam will I bring the four winds from the four quarters of the heavens" (Jer. xlix. 36); "And shall go out to deceive the nations which are in the four quarters of the earth" (Rev. xx. 8). *Third*, To indicate one of the four cardinal points, east, west, north, south:—"And the Lord said unto Abram, after that Lot was separated from him, Lift up now thine eyes, and look from the place where thou art northward, and southward, and eastward, and westward" (Gen. xiii. 14). The word here is literally the *tract in front* (*kedem*). It is so rendered in Job xxiii. 8–10:—"Behold I go forward (*kedem*), but he is not there; and backward, but I cannot perceive him: on the left hand, where he doth work, but I cannot behold him: he hideth himself on the right hand, that I cannot see him. But he knoweth the way that I take: when he hath tried me, I shall come forth as gold." In Ezekiel xlvii. 18, the same word is used:—"And the east side ye shall measure from Hauran, and from Damascus, and from Gilead, and from the land of Israel by Jordan, from the border unto the east sea. And this is the east side." In several passages this term is associated with strictly geographical references, and with the people dwelling in the regions alluded to. (See under Gen. xxix. 1.)

At the tenth verse the Hebrew genealogy is again resumed:—"These are the generations of Shem: Shem was an hundred years old, and begat Arphaxad two years after the flood. And Shem lived after he begat Arphaxad five hundred years." In a table given above, the genealogical list of the Sethites, from Adam to Noah, is set down; the names mentioned being those through whom Christ was to come, and

by whom chiefly the witness to the grace and righteousness of God was maintained on the earth. As we are now entering on a narrower field than has hitherto been before us in dealing with the sacred text, and as the historical ground is becoming more sure, even from the point of view of profane history, these lists need not be continued farther down than to the period of the death of Abraham. Before that event the Shemites, in the line of Arphaxad, had begun to assume a political importance even, sufficient to keep them distinctly in view in the chronicles of the world. Thus in chapter xiv. he is seen as the head of a number of confederate chiefs, under the name of "Abram, the Hebrew."

	Birth.		Death.	
	Year of World.	Before Christ.	Year of World.	Before Christ.
Arphaxad,	1658	2346	2096	1940
Salah,	1693	2311	2126	1878
Eber,	1723	2281	2187	1817
Peleg,	1757	2247	1996	2008
Reu,	1787	2217	2026	1978
Serug,	1819	2185	2049	1955
Nahor,	1849	2155	1997	2007
Terah,	1878	2126	2083	1921
Abraham,	2008	1996	2183	1821

There are several other dates of interest. For example, Arphaxad lived till after the birth of Ishmael, B.C. 1910. Shem was alive when Isaac was married to Rebekah, B.C. 1856. Sarah was born B.C. 1986, and died B.C. 1859. Terah, taking with him Abraham and Lot, went to Haran B.C. 1923. Abraham removed to Canaan B.C. 1921.

Before the household of Terah removed to Haran, they had been dwelling in Ur of the Chaldees. This city was the native place of Terah's children. Thus Haran, his eldest son, is said (ver. 28) to have "died before his father Terah in the land of his nativity, in Ur of the Chaldees." And when God met Abraham before they set out to go to Canaan, and while he still dwelt with his father in Ur, his words to him were—"Get thee out of thy country, and from thy kindred, and from thy father's house, unto a land that I will show thee" (xii. 1). "Thou art the Lord God," said Nehemiah (ix. 7), "who didst choose Abram, and broughtest him forth out of Ur of the Chaldees, and gavest him the name of Abraham." Joshua's reference to the same fact gives us a glimpse into the spiritual condition of Terah's household. "And Joshua said unto all the people, Thus saith the Lord God of Israel, Your fathers dwelt on the other side of the flood in old time, even

Terah, the father of Abraham, and the father of Nahor: and they served other gods. And I took your father Abraham from the other side of the flood, and led him throughout all the land of Canaan, and multiplied his seed, and gave him Isaac" (Josh. xxiv. 2, 3). It is plainly intimated in the Acts (vii. 2) that the call of God reached Abraham in Ur. When the proto-martyr, Stephen, began in the presence of his judges to rehearse the leading events in the history of God's dealings with the chosen and favoured race, he said:—"The God of glory appeared unto our father Abraham, when he was in Mesopotamia, before he dwelt in Charran (*Haran*)." "Then came he out of the land of the Chaldæans and dwelt in Charran" (ver. 4).

In verse 31 of this chapter we are distinctly told that, though there was no direct divine call given to Terah, "he took Abram and his son, and Lot the son of Haran his son's son, and Sarai, his daughter-in-law, his son Abram's wife, and they went forth with them from Ur of the Chaldees, to go into the land of Canaan." Urged, no doubt, by outward circumstances, Terah removed with all his house from his native place, and turned towards Canaan. Abram likewise leaves Ur, and proceeds with his father in the same direction. Thus far they might seem under the same motive. Yet how widely apart were the motives of each! Terah is moved by political or industrial considerations; Abram's heart is under the direct teaching of the Spirit of God. He has hearkened to a spiritual call, and his eye is to be henceforth on the promise by which the call was backed. His father, still an idolater, walks by sight; Abraham sets out as a man of faith—"By faith Abraham, when he was called to go out into a place, which he should afterwards receive for an inheritance, obeyed, and he went out, not knowing whither he went" (Heb. xi. 8).

The connection of Abraham's forefathers with Chaldæa appears to have been as early as the time of Shem himself. The name of his son, Arphaxad, has been recently shown to mean "the strength, or stronghold of Chaldæa." Chaldæa, or the land of the *Kaldi*, was, strictly speaking, an independent region, which lay on the south of Babylonia. It came afterwards to be incorporated with it; but, as has already been shown, it was originally, and for a long period, distinct. When mentioned in Scripture, however, it generally includes all Babylonia. Its extent and its physical features are noticed under Isaiah xiii. 1.

At a very early period Ur appears to have been its capital, situated most likely in a province of the same name. This will explain the twofold way in which it is referred to. Sometimes it is noticed in such

a general way as to force on us the conclusion that a wide district is mentioned; but oftener the scope of the context demands that Ur should be regarded as a city. The attempts to identify Ur have led historical critics to claim one of two places as representing the birthplace of Abraham. It was for some time thought that the modern fort, Ur, on the Tigris, between Dura and Nisibis, occupies the site of the ancient city. This is now held to be untenable. The general belief is, that the modern Mugheir, Muqueyer, or Umghéir, a large ruin south of the Euphrates, points out the city of Terah and Abraham. It lies near the junction of the Euphrates with the Shat-el-Hie, about sixteen miles north-west by west from the modern Suk-es-Shuyukh. In 1854 Mr. J. E. Taylor made a careful examination of this mound. The ruin is nearly three thousand yards in circumference, and is built throughout of bricks. The mass of the masonry is sun-dried bricks. These are in some places edged with kiln-dried ones bearing inscriptions. The rows which form the foundations of the chief building, which is two-storied, have been laid down in asphalt, like those at Birs Nimroud. Around the principal ruin many smaller mounds are met with, containing evidences of having been used for the burial of the dead.

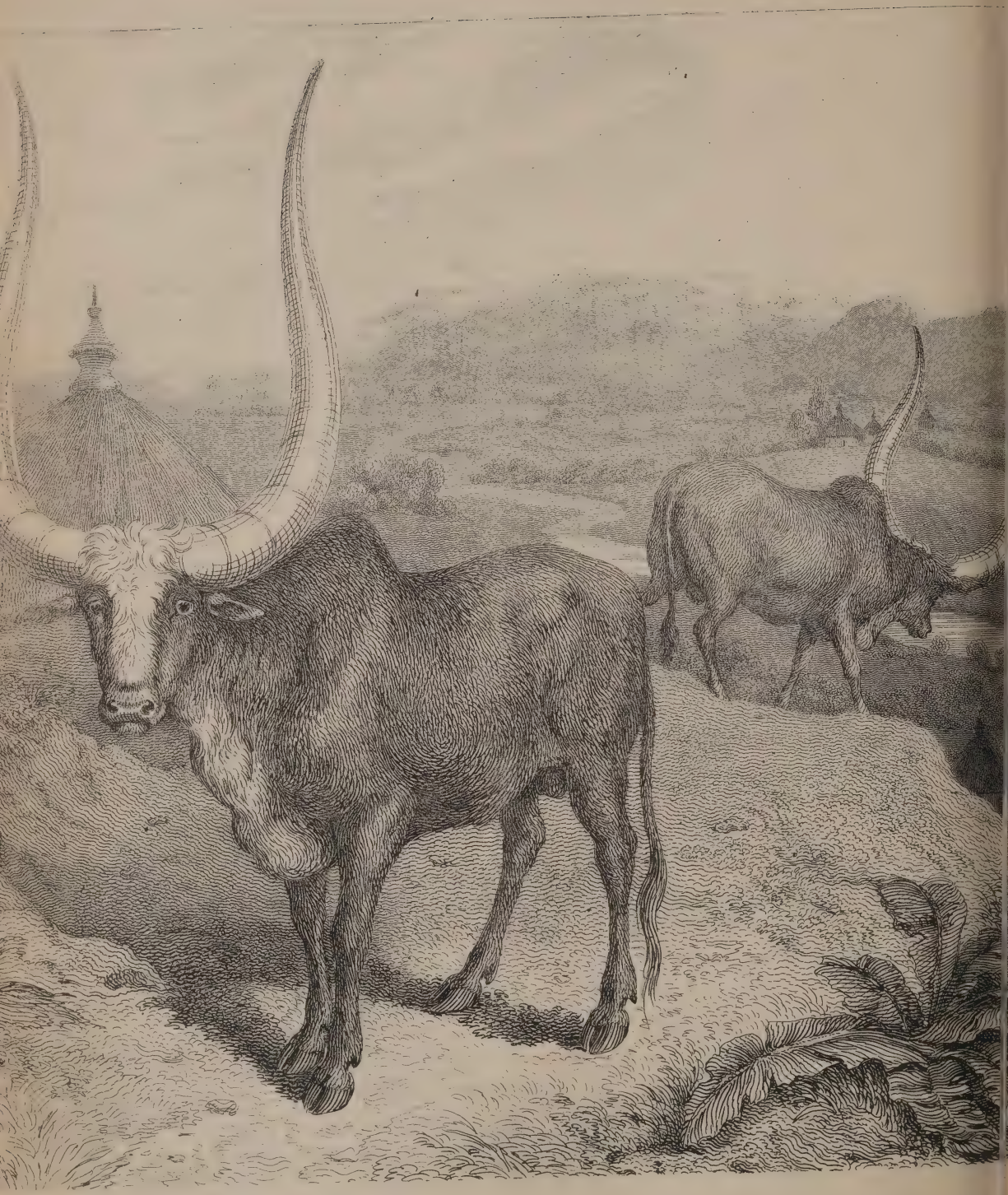
In the journey from Ur to Canaan, Terah's household halted in Haran. There Terah died. This town is called Charran in Acts vii. 2, 4. Nahor appears to have settled there. So that when Abraham, after his father's death, set out for Canaan, he left his own kindred in Mesopotamia. Haran is called "the city of Nahor." When Abraham sent his servant to take a wife for Isaac, the heir of promise, it is said (xxiv. 10)—"He arose and went to Mesopotamia, unto the city of Nahor." When Rebekah was persuading her son Jacob to escape from the hands of his wronged and offended brother Esau, she said, "Now, therefore, my son, obey my voice; and arise, flee thou to Laban my brother, to Haran" (xxvii. 43). Its geographical position is made even more definite in chapter xxv.—"Isaac was forty years old when he took Rebekah to wife, the daughter of Bethuel (son of Nahor by Milcah) the Syrian (the Aramite) of Padan-Aram, the sister to Laban the Syrian" (ver. 20). We have thus—1, the region named in which Haran was situated; and 2, the position of the region lying in its immediate neighbourhood is mentioned. The great tract of country was the Hebrew "Aram-Naharaim," or highlands of the two rivers, rendered Mesopotamia in our version. "This," says Dr. Stanley, "is applied to the mountains from which the Euphrates and Tigris issue into the plain. It is also described in Numbers xxiii. 7, as 'Aram, the mountains of

the East.' Padan-Aram is 'the cultivated field of the highlands,' apparently either an upland vale in the hills, or a fertile district immediately at their foot."

Haran has been identified with the modern Harrán, the Carræ of the Romans, noted in Roman annals as the place near which the triumvir Crassus suffered death at the hands of the Parthian general Surena (B.C. 53), where twenty thousand Roman soldiers were killed, and ten thousand taken prisoners. Harrán stands on a stream which falls into the Euphrates.

GENESIS XII.

MARAN was the first stage in the journey undertaken by Abraham at the command of God (Acts vii. 2). He was under the power of the Divine command when he left Ur; but the point of special trial to his natural sympathies and household affections was when he departed from Haran—"So Abram departed, as the Lord had spoken unto him; and Lot went with him: and Abram was seventy and five years old when he departed out of Haran. And Abram took Sarai his wife, and Lot his brother's son, and all their substance that they had gathered, and the souls that they had gotten in Haran; and they went forth to go into the land of Canaan; and into the land of Canaan they came" (ver. 4, 5). He went out under the promise of a great blessing, and with the light of the Lord's countenance resting upon him, as the man of faith:—"I will make thee a great nation, and I will bless thee, and make thy name great; and thou shalt be a blessing. And I will bless them that bless thee, and curse him that curseth thee, and in thee shall all the families of the earth be blessed" (ver. 2, 4). Passing from Haran to the south-west, they reached the region which the descendants of the fourth son of Ham, Canaan, had originally taken possession of (Gen. x. 15–20). "And Abram passed through the land unto the place of Sichem, unto the plain of Moreh. And the Canaanite was then in the land." In his journey westward he met the course of the Jabbok, the modern Wady Zurka, which has cut for itself a deep channel through the mountains, and winds its way to the plain of the Jordan on the west. In later times, Jacob returned from Haran by the same route. "He pitched," we are told, "in Mount Gilead," which lies on the south of the Jabbok, the stream on the banks of which the angel wrestled with him (chap. xxxi. 22–25, and xxxii. 24). The mention of Sichem and Moreh shows that Abram and his household had entered Canaan by one of the richest and most beautiful tracts of that land. "The place of Sichem" includes the district around the city, Sychem, Shechem, or Sychar, the ancient Neapolis, now known as Nâblus, or Naplouse. Recent travellers all dwell with delight on the beauty of its situation, the fertility of the surrounding district, and



LONG-HORNED CATTLE (*Bos Taurus*, var. *Abyssinicus*). See under GEN. xii. 16.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON

the grandeur of the scenery in the neighbourhood. "The situation of Shechem," says Dr. Stanley, "is soon described. From the hills through which the main route of Palestine must always have run, and amongst which Shiloh is secluded, the traveller descends into a wide plain, the wildest and the most beautiful of the plains of the Ephraimite mountains, one mass of corn unbroken by boundary or hedge, from the midst of which start up olive-trees, themselves uninclosed as the fields in which they stand. Over the hills which close the northern end of this plain, far away in the distance, is caught the first glimpse of the snowy ridge of Hermon. Its western side is bounded by the abutments of two mountain ranges, running from west to east. These ranges are Gerizim and Ebal; and up the opening between them, not seen from the plain, lies the modern town of Nâblus. This is one of the few instances in which the Roman, or rather the Greek name, has superseded in popular language the ancient Semitic appellation—'Nâblus' being the corruption of 'Neapolis,' the 'New Town' founded by Vespasian after the ruin of the older Shechem, which probably lay farther eastward, and therefore nearer to the opening of the valley. A valley, green with grass, gray with olives, gardens sloping down on each side, fresh springs rushing down in all directions; at the end, a white town, embosomed in all this verdure, lodged between the two high mountains which extend on each side of the valley—that on the south Gerizim, that on the north Ebal. This is the aspect of Nâblus, the most beautiful, perhaps it might be said the only very beautiful spot, in Central Palestine." M. Van de Velde, who approached this valley from the richer scenery of the north, was not less struck by it than those who contrast it with the barren hills of Judæa:—"The awful gorge of the Leontes is grand and bold beyond description; the hills of Lebanon, over against Sidon, are magnificent and sublime; the valley of the hill of Naphtali is rich in wild oak forest and brushwood; those of Asher, the Wâdy Kara, for example, present a beautiful combination of wood and mountain stream in all the magnificence of undisturbed originality. . . . . Carmel, with its wilderness of timber trees and shrubs, of plants and bushes, still answers to its ancient reputation for magnificence. But the Vale of Shechem differs from them all. Here there is no wilderness, here there are no wild thickets, yet there is always verdure—always shade, not of the oak, the terebinth, and the carob-tree, but of the olive grove, so soft in colour, so picturesque in form, that for its sake we can willingly dispense with all other wood. Here there are no impetuous mountain torrents, yet there is water—water,

too, in more copious supplies than anywhere else in the land; and it is just to its many fountains, rills, and water-courses that the valley owes its exquisite beauty. There is a singularity," he adds, "about the Vale of Shechem, and that is, the peculiar colouring which objects assume in it. You know that wherever there is water the air becomes charged with watery particles, and that distant objects beheld through that medium seem to be enveloped in a pale-blue or gray mist, such as contributes not a little to give a charm to the landscape. But it is precisely these atmospheric tints that we miss so much in Palestine. Fiery tints are to be seen both in the morning and the evening, and glittering violet or purple-coloured hues where the light falls next to the long deep shadows; but there is an absence of colouring, and of that charming dusky haze in which objects assume such softly blended forms, and in which also the transition in colour from the foreground to the farthest distance loses the hardness of outline peculiar to the perfect transparency of an eastern sky. It is otherwise in the Vale of Shechem, at least in the morning and the evening. Here the exhalations remain hovering among the branches and leaves of the olive-trees, and hence that lovely bluish haze. The valley is far from broad, not exceeding in some places a few hundred feet. This you find generally inclosed on all sides; there likewise the vapours are condensed. And so you advance under the shade of the foliage along the living waters, and charmed by the melody of a host of singing birds—for they, too, know where to find their best quarters—while the perspective fades away, and is lost in the damp vapoury atmosphere. These are the features, so unlike to those of Jerusalem, which we have now to trace as they burst upon us in different points of view through the various stages of the history of Shechem, as of a face once familiar, often disappearing, yet again and again appearing through the vicissitudes of youth and age, through public and private life—changing, yet still the same, and connecting events and scenes in themselves widely different."

The valley of Moreh is the modern *el-Makhnah*, which is before Shechem—a plain which must have greatly drawn to it the admiration of the Syrian wanderers, if it was even half as lovely and fertile in the days of Abram as it is now. The clause in verse sixth, rendered in our translation "the plain of Moreh," should have been "the oak of Moreh." It is certain that the trees of the spot mentioned are pointed to here. The likelihood that these trees were oaks, and that among them one was much noted, is of the strongest kind. Some have tried to make out that the Terebinth (*Pistacia terebinthus*), or turpentine

tree, is the plant referred to. But there are several weighty objections to this. The chief of these is, that "*oak*" is by far the best translation for the word in the other passages in which it occurs.

From the Hebrew *El* or *Ail* (to be strong), certain words, in common use in Scripture, are derived which indicate strong trees. In Genesis xiv. 6, Chedorlaomer is represented as smiting "the Horites in their Mount Seir, unto El-paran, which is by the wilderness." The reference here being to a noted terebinth tree (*El*) on the borders of the country

Fig. 95.

Oak Tree (*Quercus robur*).

possessed by the Horites. The plural form of this occurs in Exodus xv. 27. "And they came to *Elim*, where were twelve wells of water and threescore and ten palm trees"—"Elim" being equivalent to "strong, stately trees," namely, the trees of the wilderness, the palm trees. Another derivative is used in its masculine form to denote the oak, as here, and is interchangeable with the word (*allon*) most frequently employed to designate the oak. The masculine occurs in the expressions, "plain (oak) of Moreh;" "plain (oak) of Mamre"

(xiii. 18); "plain (oak) of Zaanim" (Jud. iv. 11); "All the men of Shechem gathered together, and all the house of Millo, and made Abimelech king, by the plain (oak) of the pillar that was in Shechem" (Jud. ix. 6); "See there come people down by the middle of the land, and another company come along by the plain (oak) of Meonenim" (Jud. ix. 37); "Thou shalt go on forward from thence, and thou shalt come to the plain (oak) of Tabor" (1 Sam. x. 3).

The feminine form of *elon*, oak, is *elah*, terebinth, or turpentine tree. Thus in Isaiah vi. 13, it is opposed to the usual word for oak (*allon*), and is translated teil-tree. So also, in Hosea iv. 13, where it is rendered elm. In Judges vi. 19, it occurs as oak, in the description of the interview between Gideon and the angel—"The flesh he put in a basket, and he put both in a pot, and brought it out unto him under the oak (terebinth), and presented it." It is also the "thick oak" of Ezekiel vi. 13. That *Elon* was used as having the same meaning with *Allon*, is clear from Joshua xix. 33, "And their coast was from Heleph, from *Allon* to Zaanim." This is the same object and locality mentioned in Judges iv. 11, as the plain of Zaanim, literally an oak (*elon*) by Zaanim."

The tree of Moreh was thus the oak (*Quercus robur*), or common oak, a tree which still abounds in the region into which Abram came when, having left the course of the Jabbok, he crossed to the western shore of the Jordan, and encamped in the valley of Moreh, under Ebal and Gerizim. The oak, with the beech, the chestnut, &c., belongs to the natural order *Corylaceæ*—the Nut-tree or Hazel family. It is noted for its great durability, a characteristic common to it with other trees—the Yew (*Taxus baccata*), for example—which are noted for the hardening of their central wood, or *duramen* of botanists. This becomes dry, and, unlike that of the trees of rapid growth and soft central wood, does not seem to take any part in the vital processes of the plant. Its durability and strength made the oak a fit figure of the powerful races, which the Lord drove out of Canaan before his chosen people. When pleading, by the lips of Amos, with a backsliding people, and when reminding them of his mighty acts on behalf of their fathers, the Lord says—"Yet destroyed I the Amorite before them, whose height was like the height of the Cedars, and he was strong as the Oaks, yet I destroyed his fruit from above, and his roots from beneath" (xi. 9).

In the place of Sichem, in the rich valley of Moreh, of which the Canaanite still held peaceful possession while increasing in wickedness and filling up the cup of their iniquity, "the Lord appeared unto Abram.

and said, Unto thy seed will I give this land." "And there Abram builded an altar unto the Lord who appeared unto him" (ver. 7). The divine purpose in leading him to leave his own people and his father's house, begins now to have more light shed on it. The wood-clad hills, the fruitful fields, the "lands laughing with abundance," which everywhere met the eye of the Hebrew patriarch, were to be given to him and to his seed. The region which from Abraham to Joshua filled the hopes of the Hebrews, is thus clearly pointed out to the chief founder of their nation—"Unto thy seed will I give this land." (See under Numbers xiii. 17, for Canaan and the Canaanites.)

The topics which claim special notices in chapters xii. to xxv., are all more or less closely connected with the life of Abraham. The references, moreover, to other individuals, and to the tribes with which he came in contact, cannot be understood if considered apart from the biographical sketch of Abraham contained in these chapters. It will thus be best to weave the passages which demand attention into a narrative of the chief events in Abraham's history.

Leaving the plain of Moreh, Abram turned to the south and entered the highlands, whose central ridge reaches from Mount Ebal on the north to Bethel on the south. This ridge throws off subordinate ridges on both sides, whose axes are east and west. The range in after times was known as Mount Ephraim—a name which included the whole of that mountain region, which was given originally to the descendants of the younger son of Joseph, Ephraim, and part of that which was afterwards inherited by the Benjamites. "The mountain on the east of Bethel," to which he came after at least a couple of days' travel, was the plateau which lies on the top of the ridge between the supposed ruins of Ai and Beitîn—the ancient Bethel. It lies between two ravines, one of which is a branch of the modern Wady Suweinît, the other is Wady el-Medîneh. If we connect the nature of the locality to which he had gone, with the suggestive statement that the "Canaanite was then in the land," we may, perhaps, conclude that he had betaken himself to that place for greater security for a season. (Bethel—see under 1 Kings xii. 29.) On this level plateau Abram built his second altar, and "called on the name of the Lord." His journeyings from place to place kept him mindful that, even in the land of promise, he was a pilgrim. He rested but a short time among the mountains to the south of Moreh. "He journeyed farther and farther southward" (ver. 9), an expression indicative of the true nomadic condition of his household. He was in the very heart of the land of Canaan, when a famine forced him to seek

sustenance for his people in Egypt—a country less liable, as we shall see, than Canaan to such visitations. This occurrence was another of those incidents through which the spiritual discipline under which Abram had been put was brought to bear on him. The lesson must have come to him full of meaning. He had seen the natural fertility of the soil. Now he sees God's sovereignty over it.

The visit to Egypt came, from another point of view, to have a great influence on Abram's spiritual history. Noted for his faith in the word and presence of God, he, nevertheless, failed on the very ground on which devoted steadfastness might have been expected from him. The man of faith proved a coward, and faithless in the first purely personal and domestic trial which he had to encounter. Yea, he attempted to palliate, by a timid equivocation, what he should have avoided in the boldness which has its foundation in faith in God. The comeliness of Sarai, whom he describes as "a fair woman to look on," did, as he had anticipated (ver. 11, 12), attract the attention of the princes of Egypt and of Pharaoh. Acting on the privilege of the absolute monarchs of the east, Pharaoh took Sarai into his harem, in the belief that she was Abram's sister, and not his wife. The Lord, however, dealt in such a way with Pharaoh's household, as to lead him to reconsider what he had done. The result was the discovery of the relation in which Sarai stood to Abram, and her return to him, without any breach of the sanctity of the marriage relationship (ver. 18). The fact of the divine revelation to the mind of Pharaoh, is full of interest. It was most likely made in the same way to him, as in the similar instance to Abimelech, king of Gerar (xx. 3). This seems to show, especially when it is connected with the true revelation made by God to Melchisedek and to Job, that the direct manifestations of God to the consciences of men were not limited to the chosen seed in those early times. This consideration should be taken into account, when attempts are made to form an estimate of the products of human thought in the first ages of the world.

The bearing of Abram in this transaction was little to his honour. Even the idolaters appear to have been ashamed of his duplicity. He had alleged that Sarai was indeed his sister—the daughter of his father, but not of his mother (xx. 12); and he now fell back on this equivocation as the vindication of his conduct. Good Bishop Hall's remarks (1650) on the transaction are much to the point:—"What a change is this? Hitherto hath Sarah been Abraham's wife, now Egypt hath made her his sister. Fear hath turned him from a husband to a

brother. No strength of faith can exclude some doubtings. God had said, "I will make thee a great nation;" Abraham saith, "the Egyptians will kill me." He, that lived by his faith, shrinketh, and sinneth. How vainly do we hope to believe without all fear, and to live without infirmities! Some little aspersions of unbelief cannot hinder the praise and power of faith. Abraham believed, and it was imputed to him for righteousness. He that through inconsiderateness doubted twice of his own life, doubted not of the life of his seed, even from the dead and dry womb of Sarah. Yet was it more difficult that his posterity should live in Sarah, than that Sarah's husband should live in Egypt; that was above nature, yet he believed it. Sometimes the believer sticks at easy trials, and yet breaks through the greatest temptations without fear. Abraham was old, ere this promise and hope of a son; and still the older the more incapable; yet God makes him wait twenty-five years for performance. No time is long to that faith which has learned to defer hopes without fainting and irksomeness."

M. Voltaire, and others of a kindred spirit, have attempted to make out a case against the credibility of this narrative on the score of Sarai's age. It is alleged that there is not the least likelihood of a voluptuous heathen king coveting for his harem a woman of her age. Taking her birth as B.C. 1986, and the visit to Egypt as occurring in B.C. 1921, she would be sixty-five years old at the time of this transaction. It should, however, be kept in mind, that if, as is almost sure, her death took place B.C. 1859, she would be one hundred and twenty-seven years old. She would thus be in her prime at the period referred to—a sufficient answer to the sneers and the licentious wit of unbelievers.

As this visit to Egypt has left a broad and distinct mark on the history of Abram, it was natural that the Jews of later times should make much of it. Josephus holds Egypt greatly indebted to the son of Terah. "Whereas," he says, "the Egyptians were formerly addicted to different customs, and despised one another's sacred and accustomed rites, and were very angry one with another on that account, Abram conferred with each of them, and, confuting the reasonings they made use of, every one for their own practices, demonstrated that such reasonings were vain and void of truth; whereupon he was admired by them in those conferences as a very wise man, and one of great sagacity, when he discoursed on any subject he undertook; and this not only in understanding it, but in persuading other men also to assent to him. He communicated to them arithmetic, and delivered to them the science of astronomy; for before Abram came into Egypt they were

unacquainted with those parts of learning; for that science came from the Chaldæans into Egypt, and from thence to the Greeks also" (Antiq. b. i. viii. 2). The researches of recent Egyptologists contradict the statements of Josephus as to the time when astronomy began to be studied as a science in the land of the Pharaohs. The king with whom Abram was brought in contact was most likely Osirtisen I., whose reign must have been about B.C. 1920. The title Pharaoh was the general designation given to all the Egyptian monarchs. It is equivalent to our word king. The derivation of the title seems to indicate the sacred character of the monarch. Wilkinson, Rosellini, and other Egyptologists, derive it from Phrè or Phrà, the Egyptian sun-god. The Hebrew word rendered Pharaoh is Phràh. The name of the Egyptian god was usually written Rè or Rà, and when the article *Pi* (*the*) was added, it became Phrè or Phrà, the title of the reigning monarch—"the Son of the Sun."

In the sixteenth verse the wealth of the Hebrew patriarch is noticed —"He had sheep and oxen, and he-asses, and men-servants and maid-servants, and she-asses, and camels." Much of this seems to have been gotten in Egypt, for it is said of Pharaoh that "he entreated Abram well for Sarai's sake, and that he had sheep," &c. In the following chapter we are again informed that "Abram was very rich in cattle, in silver, and gold" (ver. 2). In the transaction with Ephron the Hittite (xxiii. 16), "Abraham weighed to Ephron, the silver which he had named in the audience of the sons of Heth, four hundred shekels of silver, current money with the merchant." Again, when Abraham sent the "eldest servant of his house" to his kindred at Haran, to seek a wife for his son, it is said that "the servant took ten camels of the camels of his master, and departed" (xxiv. 10). And when he came to the well at Haran, and met Rebekah, he is represented as taking "a golden earring of half a shekel weight, and two bracelets for her hands, of ten shekels weight of gold" (xxiv. 22), which he put on her. Such passages leave no doubt as to Abraham's great wealth, which is shown to have chiefly consisted of flocks, and of silver and gold. In his flocks were the ass (*Asinus vulgaris* = *Equus asinus*, Plate XIX., Fig. 2), the camel (*Camelus dromedarius*, Plate XXXVI., Fig. 3), the ox (*Bos mambricus*), and the sheep (*Ovis aries*, Plate V.—For sheep, see under Genesis iv. 2). It is worthy of note, that no mention is made of the horse (*Equus caballus*, Plate XIX., Fig. 1), an animal for which Egypt was famous from earliest times. The horse would have been of comparatively little use to him, a mere leisurely wanderer, as he followed

by easy stages the guidance of the Lord. The camel would be much more serviceable for the work required, and in the places where he chiefly sojourned. The ass is noticed under Psalm civ., 11, the camel under Genesis xxx. 43, and the horse under 1 Kings x. 28, 29. The woodcut of the Syrian ox, given here, conveys a good idea of the variety of ox used by the Israelites. There is no evidence that anything like the great variety of breeds to be met with now, obtained in ancient times. The domestication of oxen, using the term, as in Scripture, for cattle generally, appears to have been one of the earliest of man's triumphs over the lower animals. Lamech's son, Jabal, as we have seen, was the first who specially gave himself to this—"He was the father of such as dwell in tents, and of such as have cattle" (iv. 20).

Fig. 96.

The Syrian Ox (*Bos taurus*, var. *numbricus*).

The social, industrial, and religious associations connected with the biblical references to the ox, claim for it a full notice:—

1. Its place in zoological classification. In the scheme of classification proposed by Professor Owen for the Mammalia, or animals that suckle their young by teats, the ox is ranked under the order *Artiodactyla*, or those which have an even number of toes. By this feature it is linked with the sow and the hippopotamus, from which, however, it differs greatly in other generic features. For example, it chews the cud, or ruminates. This characteristic associates it with the deer, the sheep, and the goat, in the group *Ruminantia*, or cud-chewers. The transitional link between the ox (*Bos*) and the sheep (*Ovis*) is the musk ox (*Bos moschatus*) of the northern parts of North America. The following cut is introduced for the purpose of comparison. On the one side the ruminants meet the animals characterized by a single, perfect, hoof-covered toe (*Solidungula*), as the horse, ass, &c.; and on the other

the non-ruminant promiscuous feeders (*Omnivora*), as the sow, &c. The structure of the cud-chewers has certain persistent peculiarities, which separate them broadly from the other orders of the hoofed animals along with which they are grouped. These structural peculiarities in the bony skeleton and in the digestive organs are connected with well-marked habits.

2. The original type of the domestic ox. The question of the origin of the varieties, which, as we shall see, obtained even in Scripture times, has given rise to much discussion and to many theories. Is the original stock extant? If not, are there any remains by which it may be identified? The chief sources pointed to for the origin of domestic cattle

Fig. 97.

Musk Ox (*Ovibos moschatus*).

are six:—(*a*) The bison (*Bison Europæus*—Owen). This species at one time was widely distributed. There is no doubt that the remains of the ancient bison (*Bison priscus*), which have been found in British tertiary strata, belonged to a variety of the bison, or aurochs, which is still to be met with in the Caucasus, and in the forests of Lithuania. Their length from the nose to the tip of the tail is nearly thirteen feet. Their widespread distribution in ancient times—their occurrence in Asia Minor, over the continent of Europe, and even in the British Isles—led many to conclude that they were the parents of all domestic cattle. But in addition to many minor features, there are certain well-marked anatomical peculiarities which are fatal to this theory. For example, the European bison has only five lumbar vertebræ, while the

ox has six; the former has fourteen pair of ribs, and the latter has only thirteen. (*b*) The urus (*Bos urus*). At the period of the Roman invasion (B.C. 52), Cæsar found the urus wild in Britain. He says—"These uri are little inferior to elephants in size, but are bulls in their nature, colour, and figure. Great is their strength and great their swiftness, nor do they spare man or beast when they have caught sight of them. These, when trapped in pitfalls, the hunters diligently kill. The youths exercising themselves by this sort of hunting are hardened by the toil; and those among them who have killed most, bringing with them the horns as testimonials, acquire great praise. But these uri cannot be habituated to man or made tractable, not even when young. The great size of the horns, as well as the form and quality of them, differs much from the horns of our oxen." The bones of the urus have been traced over an area as wide as that in which those of the ancient bison occur; and Cuvier, with others, concluded that the urus was the parent of the common ox (*Bos taurus*), of which the Syrian ox is only a variety. There are several features of resemblance between its skeleton and that of the domestic ox; its size and general disposition make it little probable that it was the parent of all those varieties of domestic cattle which are to be met with over the world. (*c*) The buffalo (*Bos bubalus*). The buffalo is very widely distributed. Varieties are found in Europe, Africa, and Asia. It occurs still in a wild state in Bible lands, and in some countries of Asia is much employed as a domesticated animal. The characteristics of the skeleton, however, exhibit modifications in structure so widely different from the structure of the ox, as to preclude the idea that any process of domestication could have produced the domestic cattle of Syria from the buffalo. (*d*) The gazál (*Bos frontalis*). This species is found wild in Bengal, and has been pointed to as the original stock of the Indian ox, or zebu (*Bos Indicus*). But as the latter is manifestly only a variety of the common ox, it has been concluded that the gazál may be the original parent of both. The general appearance, form of the head, period of gestation, and habits of this animal, are opposed to this assumption. The likelihood is that the gazál—asseel gazál of the natives—is a remote variety of a species met with in a wild state in the mountainous regions of Central India. This is the gour (*Bos gaurus* = *B. aculeatus* of Cuvier), whose characteristics, however, are even farther removed from the common ox than those of the gazál. (*e*) In many countries of the Old World distinct traces of a breed have been met with, which has been held the parent stock of domestic cattle. Two forms of this are connected with Britain, and

these, it is alleged, may have associated with the uri in the forests of Britain and of Germany. One of them, the *Bos longifrons*, has left its remains in the most recent marl beds, and is known to have lived within the historical period. Our Highland and Welsh cattle may, in the opinion of Professor Owen, be the descendants of these. The other is the wild British ox (*Bos Scoticus*), specimens of which are still preserved in one or two noblemen's parks. These wild cattle are regarded by many as representatives of a species once spread over the continent of Europe, and Asia Minor. But it is much more likely that they are representatives of an ancient breed of domestic cattle, which from long neglect had returned to a wild state. The tendency, however, of varieties thus left to themselves to revert to the original type, is not without interest in the present inquiries. No doubt these are varieties of the common species (*Bos taurus*), and they may present to us a nearer likeness to the primitive stock than any of the others. If, as is most probable, the Romans introduced their own domestic breeds into Britain, this would go far to associate this variety with the cattle of Greece, Egypt, and even Syria. Professor Owen remarks—"Professor Bell is disposed to believe with Cuvier and most other naturalists, that our domestic cattle are the degenerate descendants of the great urus. But it seems to me more probable that the herds of the newly conquered regions would be derived from the already domesticated cattle of the Roman colonists, of those *boves nostri*, for example, by comparison with which Cæsar endeavoured to convey to his countrymen an idea of the stupendous and formidable uri of the Hercynian forests. The taming of such a species would be much more difficult than the importation of the breeds of oxen already domesticated and in use by the founders of the new colonies. And that the latter was the chief if not the sole source of the ox of England, when its soil began to be cultivated under the Roman sway, is strongly indicated by the analogy of modern colonies. The domestic cattle, for example, of the Anglo-Americans have not been derived from tame descendants of the original wild cattle of North America; there, on the contrary, the bison is fast disappearing before the advance of the agricultural settlers, just as the aurochs and its contemporary the urus have given way before a similar progress in Europe. With regard to the great urus, I believe that this progress has caused its utter extirpation, and that our knowledge of it is now limited to deductions from its fossil or semi-fossil remains." (*f*) The common ox (*Bos taurus* = *B. domesticus*). Holding this to represent an originally distinct species, we are justified in giving the name to a

very great variety of forms. In India it becomes associated with all the varieties of the zebu (*Bos taurus*, var. *Indicus*). In Africa it is represented by the Egyptian ox (*B. taurus*, var. *Egypticus*), and by the long-horned cattle of Abyssinia (*B. taurus*, var. *Abyssinicus*—see Plate VI.); in Syria by the Syrian ox (*B. taurus*, var. *mambricus*); in Britain and on the continent by the almost countless varieties of domestic breeds. As in the case of other mammalia, the original type may be lost in the numberless varieties that have sprung from it. But there is scarcely any room for doubting that the oxen which constituted one of the chief features of Abraham's wealth, were varieties of the same original species with our own. Several of the varieties now referred to were to be met with at a very early date. The monuments of ancient Egypt exhibit outlines of the humped, the short-horned, and the long-horned varieties (Plate VI.); see also under Genesis xli. 2. In addition to his numerous flocks, Abram is said to have also been rich in silver and gold. The latter form of patriarchal wealth is considered under Genesis xxxiii. 19.

GENESIS XIII.

SOME have found the explanation of the kindly way in which Abram was dealt with by Pharaoh, and of the recognition of the true God by the Egyptian monarch, in the belief that he went down to Egypt at some period during the fifteenth dynasty of her kings—that is, during the reign of the Hyksos, or Shepherd Kings. As these are believed to have been of Arabian origin—nomads like Abram—it is held that the son of Terah would find in them friends, and a race not remotely connected with him by tribal ties. The ancient Egyptian annalist, Manetho (B.C. 260), says, in a fragment preserved by Josephus—"We had formerly a king whose name was Timaus [Amun-m-he I. of the Egyptian monuments]. In his time it came to pass, I know not how, that God was displeased with us; and there came up from the East, in a strange manner, men of an ignoble race, who had the boldness to invade our country, and easily subdued it by their power without a battle." But while the fact of the invasion of the Hyksos, or Shepherd Kings, is well established, there are chronological difficulties in the way, insuperable if we accept the usual Scripture chronology, of fixing the date of Abram's visit at the time of even their first king. Nor is the reference to the religious notions floating among the Shemitic families in Arabia more to the point in connecting this visit with the time of the Hyksos, because Abraham himself had been an idolater, and had, with the rest of his household, served strange gods. There is thus no complete solution of the question touching this acknowledgment of God by Pharaoh, in the view "that 'images of truth,' wherever such exist in Gentilism, were merely due to refracted rays of supernatural light whose proper sphere was in the bosom of the sacred family." The attainments of worthies like Melchisedek and Job show, that a far greater number of the human race than the Abrahamic branch of the Shemites, had been in direct contact with the great thoughts of God's righteousness and grace in those early times.

"Abram went up out of Egypt, he and his wife, and all that he had, and Lot with him, into the south." He had been sojourning in Lower Egypt. "The south" to which he returned was the south of Canaan.

He was accompanied by his brother Haran's son, Lot, who also had "flocks, and herds, and tents. And the land was not able to bear them, that they might dwell together: for their substance was great, so that they could not dwell together. And there was a strife between the herdmen of Abram's cattle and the herdmen of Lot's cattle. And the Canaanite and the Perizzite dwelt then in the land" (ver. 5–7). They had come to the locality already noted both in the spiritual and family history of Abram—"the place where his tent had been at the beginning, between Bethel and Hai; unto the place of the altar, which he had made there at the first" (ver. 3, 4). Recalling there his early impressions—the leadings of the Lord and his dealings with him in goodness and in grace, "Abram called on the name of the Lord." "The manner," says A. Fuller, "in which 'the place of the altar' is mentioned, seems to intimate that he chose to go thither in preference to another place, on this account. It is very natural that he should do so; for the places where we have called upon the name of the Lord, and enjoyed communion with him, are, by association, endeared to us above all others. There Abram again called on the name of the Lord; and the present exercises of grace, we may suppose, were aided by the remembrance of the past." His enjoyment of God, as found by him at "the place of the altar," was soon tried by the disputes between his herdmen and Lot's. It would appear that the more fertile tracts in the region in which they now dwelt, were held by the native inhabitants of the land. The Canaanite and the Perizzite were there—an expression designed to intimate that both the fruitful plains in the lowlands and the plateau of Bethel were fully occupied in their best parts; the term Canaanite being used here in the restricted sense of an inhabitant of the plains, and not, as it is most frequently, to include all the nations of Canaan. By mutual consent, uncle and nephew separated. "And Lot lifted up his eyes, and beheld all the plain of Jordan, that it was well watered every where, before the Lord destroyed Sodom and Gomorrah, even as the garden of the Lord, like the land of Egypt, as thou comest unto Zoar. Then Lot chose him all the plain of Jordan; and Lot journeyed east; and they separated themselves the one from the other. Abram dwelled in the land of Canaan, and Lot dwelled in the cities of the plain" (ver. 10–12). Abram continued to sojourn in the open country; Lot betook himself to the cities. Pasturing his cattle in the open country, and giving himself to agriculture, he took up his abode, with his household, in the cities. Again the promise of Canaan was made to Abram after he was separated from Lot. The

Lord said unto him, "Lift up now thine eyes, and look from the place where thou art northward, and southward, and westward: For all the land which thou seest, to thee will I give it, and to thy seed for ever. And I will make thy seed as the dust of the earth: so that if a man can number the dust of the earth, then shall thy seed also be numbered. Arise, walk through the land, in the length of it, and in the breadth of it: for I will give it unto thee" (ver. 14–17). The promises are grander and more glorious than had been given to him before. Relying on their ultimate fulfilment, Abram betook himself to Hebron, and dwelt under the "oaks of Mamre;" Lot pitched his tent towards Sodom.

Before continuing the biographical sketch of Abram farther, several subjects embraced in the Bible narrative claim special notice.

1. *The Plain of the Jordan* (ver. 10).—The tract to which this name is usually given is the region lying between the Sea of Galilee and the Dead Sea. In the days of Lot it must have included large portions of land now covered by the waters of the latter sea. The modern valley of El Ghor, which runs both on the north and south of the Dead Sea, and the so-called valley of the Jordan, which reaches from the top of El Ghor, on to the Sea of Galilee and thence to Lake Hûleh, or Merom, lie in the centre of the plain of the Jordan, if we associate it with the tracts lying both on the east and west banks. Only the land which fringes the river can now be held to approach the fertility of the whole plain, as the son of Haran saw it when he descended from the plateau of Mount Ephraim. The plain itself is for the most part a barren land, covered with a sulphureous crust, especially to the north of the Dead Sea, and almost destitute of vegetation. On the south-east of the Dead Sea it bears many traces of its former beauty and fertility:—

> "Fertile of corn the glebe, of oil and wine;
> With herds the pastures thronged, with flocks the hills;
> Huge cities and high towered, that well might seem
> The seats of mightiest monarchs."

On approaching the southern Ghor, Captains Irby and Mangles "found," they say, "an open grove of the acacia and doom-tree very thinly sprinkled on the first portion of our way; of these a great number were apparently either dead or dying, from what cause we did not learn, possibly their foliage had been stripped by locusts. All this tract might be irrigated, for it would be easy to dam up the brook, and conduct it in almost every direction. Probably it was so at a former period, for the divisions of fields, and even the marks of furrows, are to be seen; and some ruins,

like those of cottages, or of a small hamlet. Lower down there is, very clearly, an ancient site; stones that have been used in building, though for the most part unhewn, are strewed over a great surface of uneven ground, and mixed both with bricks and pottery. This appearance continues without interruption for the space of at least half a mile, quite down to the plain, so that it would seem to have been a place of considerable extent. We noticed one column, and we found a pretty specimen of antique variegated glass; it may possibly be the site of the ancient Zoar. Near these remains the Dara opens from its glen into the plain to the northward, by a nook where there is a wall of rude brick, with an arched doorway, which, as it seemed not to promise much, we did not examine. The brook so far fertilizes this part of the plain, that it is scattered over with thickets of the acacia and doom-plant; we observed another shrub also, the branches of which have an inclination downwards, and are of a dull green, with little or no foliage; it bears a fruit about the size of an almond in its green husk, and not very dissimilar in colour, but having several seams or ribs like those on the fruit of the green pippin. When it ripens, the skin retains its roughness without, but becomes soft and juicy like a greengage, and has a degree of sweetness mixed with a strong bitter; by culture it might perhaps be improved and rendered an agreeable fruit; some said it was eatable, but others asserted that it was poisonous, and that children were frequently disordered, or even died, after eating it; there is a stone within it, and the smell is sickly and disagreeable. The hare and the partridge of the desert abound throughout this thicket, portions of which are cleared and cultivated." "Ghoeyr, immediately south of the Dead Sea, is famous for the excellent pasturage produced by its numerous springs, and it has, in consequence, become a favourite place of encampment for all the Bedouins of Djebel and Shera. The borders of the rivulets are overgrown with defle and the shrub rethem. The extensive plain near Kara consists of a fertile soil. The broad valley called El Beka is extremely fertile, and is (was) in part cultivated by the people of Szalt and the Arabs of the Belka. The Bedouins, from the superiority of its pasturage, have this saying, 'Thou canst not find a country like the Belka.'" When Lot chose the well-watered plain of Jordan, all the elements of fertility and beauty stood out before him in their fullest development. But the wickedness of those who dwelt in it was soon to turn a fat land to barrenness. Traces of the great curse that fell on it still meet the traveller on every side.

2. *Zoar* (ver. 10).—This town is named here by anticipation, as

was the case with Bethel (xii. 8). Its ancient name was *Bela.* In the next chapter (xiv. 2), among the confederate kings mention is made of "the king of Bela, which is Zoar." Both names are suggestive. The meaning usually and correctly assigned to Bela is, "the lost, swallowed up, or devoured" city. "It is called Bela," says Jerome, "that is, the lost city, because, according to Hebrew traditions, it had been overturned by three successive earthquakes" (In Isa. cap. xv.). The etymology and the tradition point to the likelihood of the existence of active volcanic agencies in the locality in times even anterior to the destruction of the cities of the plain. The physical features of the district tend to suggest the same thing. In his commentary on Genesis xiv., Jerome repeats this as the origin of the name Bela, and tries, erroneously however, to identify Zoar with Shalisha, which, he says, was also known "as the heifer three years old, for the reason that it had been buried three times by an earthquake." But the nearness of Shalisha to Mount Ephraim makes this attempt at identification out of the question. Thus when Saul was sent in search of the lost asses, it is said that "he passed through Mount Ephraim, and passed through the land of Shalisha, but found them not" (1 Sam. ix. 4). Yet the idea contained in this figure continued to be associated with Zoar up to a date comparatively recent. Thus Jeremiah says (xlviii. 34), "From the cry of Heshbon even unto Elealeh, and even unto Jahaz, have they uttered their voice, from Zoar even unto Horonaim, as an heifer of three years old: for the waters also of Nimrim shall be desolate." The prophet seems to have had before him the traditional stories about Zoar, and to have used them in illustration of the unsettled political state of the whole district from Zoar to Horonaim in Moab. The heifer three years old is peculiarly lively, active, and restless; and thus, he says, it was with the people of the district described.

The incident which led to the change of name from Bela to Zoar is recorded in chapter xix. 19–23; "Behold now, thy servant hath found grace in thy sight, and thou hast magnified thy mercy, which thou hast showed unto me in saving my life; and I cannot escape to the mountain, lest some evil take me, and I die. Behold now, this city is near to flee unto, and it is a little one: Oh! let me escape thither (is it not a little one?), and my soul shall live. And he said unto him, See, I have accepted thee concerning this thing also, that I will not overthrow this city, for the which thou hast spoken. Haste thee, escape thither; for I cannot do any thing till thou be come thither; therefore the name of the city was called Zoar. The sun was risen upon the earth when Lot

entered into Zoar." Zoar is thus literally "the little" town. "It is," says Josephus, "called Zoar to this day, because the Hebrews give this name to what is 'small.'" M. de Saulcy has bestowed much labour on the identification of Zoar (*Voyage en Syrie et autour de la Mer Morte*, i. 249; ii. 71), and he holds it to be the modern *ez-Zuweirah*, a place among the hills *on the west* of the Dead Sea. M. de Saulcy's conjecture has led to a very thorough examination of the locality in the light of the references made to Zoar in the Scriptures. Dr. Robinson has devoted a learned note to the question in his "Biblical Researches in Palestine" (vol. ii. p. 517); and he comes to the conclusion, "that the modern ez-Zuweirah has no relation to the ancient Zoar." This conclusion is based upon the mode in which the name has been spelt by the oldest writers in Palestine, and on the position of the ancient town as laid down (1) in the Bible, and (2) in the works of early writers. Abulfeda, who was governor of Hamah in Syria (A.D. 1300), refers to Zoar as Zoghar, a place lying near the Dead Sea, which he also calls the "Lake of Zoghar," and Ghôr. The Scripture narrative warrants the inference, that Zoar lay either in the plain of the Jordan or very near to it. Thus the doom of Sodom would have fallen on it, but for the intercession of Lot. "See," said the angel, "I have accepted thee concerning this thing also, that I will not overthrow this city for the which thou hast spoken" (xix. 21). "That the ancient Zoar lay *on the east* side of the Dead Sea, appears from several considerations, which seem to be decisive. Lot ascended from it into the mountain, where his daughters bore each a son; and these became the ancestors of the Moabites and Ammonites (xix. 30, 37, 38). Now the Moabites and the Ammonites both dwelt in the eastern mountains; and the purpose of the sacred writer, is here obviously to recount in what way these mountains became peopled, viz., by an event which took place on the spot. Further, Josephus, in speaking of this city, calls it "Zoar of Arabia." But the Arabia of Josephus was on the east of the Dead Sea; and the same is never applied to the mountains west of the sea, which belonged to Judah. To the same effect are the testimonies of Eusebius and Jerome. In like manner, the crusaders in the expedition of Baldwin I. to the country south-east of the Dead Sea in A.D. 1100, after marching from Hebron and descending into the Ghôr, proceeded around the south end of the lake, and came at length to the place called Segor, doubtless the Zoghar of Abulfeda. From this point they began to enter the eastern mountains." "As we now," says Dr. Robinson, "took leave of ez-Zuweirah, it may be proper to remark, that neither

this name, nor the site, has any relation to the ancient Zoar; although a partial resemblance in the name might at first be supposed. The Hebrew Zoar contains the letter *Ain*, which never falls away from the middle of a word; and accordingly Abulfeda and others write that name repeatedly Zoghar, and speak of it as existing in their day. The city of Zoar too lay in sight of Sodom, in or adjacent to the plain, so as to be exposed to the same destruction which overtook the other cities; and so late as the time of Jerome it had a Roman garrison and many inhabitants. But the present ez-Zuweirah, taking even the lower (for the upper is wholly out of the question), lies more than half an hour distant from any part of the sea or plain; is entirely shut in by mountains, so as to be nowhere visible from the plain; and exhibits no trace of any dwellings, except the small modern Saracenic fort. Nor is there elsewhere in the Wady, or at its mouth, the slightest vestige of any former site. Further, there is decisive historical testimony that the ancient Zoar lay on the east of the Dead Sea, in the territories of Moab. I am therefore disposed, with Irby and Mangles, to assign its position to the mouth of the Wady Kerak, where the latter opens upon the isthmus of the long peninsula. In that spot these travellers found the traces of an extensive ancient site."

3. *The Oaks of Mamre* (ver. 18).—I have already pointed out that the true rendering of the Hebrew word *elon* is not "plain." Here, as elsewhere, it is used to denote the oak tree. This verse will therefore run thus:—"Abram removed his tents and came and dwelt in the oak-groves of Mamre which is at Hebron, and built there an altar unto the Lord." Mamre lies to the south of Jerusalem near Hebron, in the mountains which afterwards formed part of the tract assigned to the tribe of Judah. It appears to have taken its name from Mamre the Amorite, an ally of Abraham, mentioned in the next chapter (xiv. 13, 24). Under the wide-spreading shady oaks for which Mamre was noted, Abram pitched his tents and raised again an altar to God. The locality is still noted for its oaks. One of these is even honoured with the name "Abraham's Oak." "Two more relics of Abraham," says Dr. Stanley, "we saw after leaving the mosque. The first was the beautiful and massive oak on its green sward, called by his name, and which, with two or three near it, at least enables one to figure the scene in Genesis xviii., and to understand why it is that the spot was called the 'Oaks of Mamre.' Whether this be the exact spot, or even the exact kind of tree, seems doubtful; for the next object which we saw was one of those solid and vast enclosures, now beginning to be so

familiar, which seems to coincide with the account of the place which Josephus mentions as the site of what he calls, not the oak, but the terebinth of Abraham. However, there was the wide scenery; the vineyards too of Eschol, from which came the famous cluster; and the red anemones, and white roses on their briar bushes." "Here we are," says the author of "The Land and the Book," "at the famous oak, and a moment's inspection will show to one acquainted with such matters that it can have no connection with Abraham, nor, indeed, with any one else who lived more than a thousand years ago. We have oaks in Lebanon twice the size of this, and every way more striking and majestic. It is a fine old *baluta* (evergreen oak), however, twenty-six feet in girth at the ground, and its thick branches extend over an area ninety-three feet in diameter. Some six feet from the ground the tree *forks* into three great arms, which again divide as they ascend into innumerable limbs. The location is beautiful, near the head of this Wady Sebta, and about two miles north-west of the city, and many a pic-nic is achieved by the Jews of Hebron upon the soft sward that is allowed to grow beneath this noble oak of their father Abraham." Mr. Porter also has described it:—"Leaving the town we proceed northward up the valley through groves of noble olives, and in about twenty-five minutes we reach the oak—*Sindian* or *Ballut* in Arabic. It stands quite alone in the midst of vineyards; the ground is smooth and clean beneath it, and close by is a well of pure water, so that it is one of the sweetest spots around the town for a temporary encampment. The only drawback is, that it is a little too far distant for such as can only remain a short time. This splendid tree measures twenty-three feet round the lower part of the trunk; and its foliage covers a space nearly ninety feet in diameter. Though evidently of great age, it is still sound and flourishing; and there are few trees to be compared with it for size and appearance in Syria. The great plane-tree of Damascus is nearly double its girth, forty feet; but it has suffered much, both from the hand of man and the tooth of time. Several of the cedars are also larger, though, being grouped together, they do not show to such advantage. This, say some, is the veritable tree beneath whose shade Abraham pitched his tent; while others affirm that it was beneath its spreading branches the Roman soldiers sold the captive Jews taken at Bether. It is scarcely necessary to say that neither of these views is tenable. The tree has no marks of such high antiquity, nor is there any early written testimony to give probability to the theory. Abraham's oak is said by Josephus to have been six stadia

from Hebron; and Eusebius states that it existed in his day, and was worshipped by the people of the country, because beneath it an angel had been entertained. Jerome, however, affirms that in the time of Constantine (circa A.D. 330) a Christian church was erected on the spot where it had stood; and of this Eusebius himself gives an account in his 'Life of Constantine.' The 'oak' therefore (or 'terebinth,' as some call it), disappeared about the year 330. Maundeville as usual tells a marvellous legend about it—how it was once green; and how it dried up at the time of our Lord's death, and continued so ever after: but, he adds, "Although it be dry, still it has great virtue; for certainly he that hath a little thereof upon him it heals him of the falling evil, and his horse shall not be afoundered.' If the gallant knight saw a tree at all, it could not have been this one."

4. *Hebron* (ver. 18).—Abram continued in Hebron during some of the most deeply interesting and eventful years of his life. From this place he set out with his allies, the Amorites, against the confederate kings. Here in his old age the divine messenger promised him a son, and as he sat in the tent door in the heat of the sun (xviii. 1), he was warned of the terrible judgments about to fall on the doomed cities of the plain. Sarah died in Hebron. These things have shed much interest around this city, one of the most ancient in the world. "Beauty lingers about Hebron still. God blessed the spot where he used to meet Abraham his friend." As with Bethel and Zoar, it is likely here named Hebron by anticipation, this being the name of a grandson of Caleb (1 Chron. ii. 42), after whom the city may have been called. In Joshua xv. 13, we learn that Joshua gave to Caleb "the city of Arba, the father of Anak, which is Hebron," and in the same chapter (ver. 54), this expression occurs—"Kirjath-arba, which is Hebron." The ancient name of Hebron was thus Arba or Kirjath-arba, the city of the father of Anak. Its great antiquity is specially mentioned in Numbers xiii. 22—"Now Hebron was built seven years before Zoan (*Tanis*) in Egypt." "Hebron, according to the Jewish tradition, was the primeval seat of the vine; it was also the earliest seat of civilized life, not only of Judah, but of Palestine. Its very name indicates 'community' or 'society.'" It was the ancient city of Ephron the Hittite, in whose "gate" he and the elders received the offer of Abraham, when as yet no other fixed habitation of man was known in central Palestine. It was the first home of Abraham and the patriarchs; their one permanent resting-place when they were gradually exchanging the pastoral for the agricultural life. It was the city of the sons

of Arba, the old Canaanite chief, with his three giant sons, under whose walls the trembling spies stole through the land by the adjacent valley of Eschol." The geographical position of Hebron is in latitude 31° 32′ 30″ N. and longitude 35° 8′ 20″ E. from Greenwich. "It is situated in a deep narrow valley, which having the open country an hour north of the place, passes down S.S.E. at first broad, with many vineyards, and then narrow as it approaches the town, with high hills on either side."

This history of Hebron from the death of Abraham up to the close of David's reign continued full of interest. Isaac passed much of his tranquil life in its neighbourhood, and was buried in Macpelah—the cave in Hebron. Jacob was sojourning near it when the tidings reached him that Joseph was still alive. It became noted in the wars of Joshua in connection with the expulsion of the Anakim from it. Afterwards given to the Levites, it became a city of refuge, and in later times David made it a royal residence, and for seven years the capital of Judah. In such circumstances, it is not to be wondered that many superstitions gathered around it. Some of these, mixed as usual with historical incidents, are thus noticed in an old Hebrew tract (1537), quoted by Dr. Wilson:—"Hebron," says the author, "is Kiriath-arba, in the land of Canaan, where is the double cave in which are buried the everlasting patriarchs, Adam and Eve, Abraham and Sarah, Isaac and Rebecca, Jacob and Leah. Above the cave is a remarkable and beautiful building, which is attributed to King David. Near the gates is a hole in the wall which, they say, reaches even into the cave. There the Jews pray; for they are not permitted to enter into the interior. They distribute daily, morning and evening, bread and meat in honour of Abraham our father; and at the time of distribution, they express their joy by songs, drums, and dances, in honour of Abraham our father. They say, likewise, that there is in the cave the head of Esau. In the middle of the city is Abner, the son of Ner, in a synagogue of the Gentiles, in a cave. Without the bounds of the city, above, upon the mountains, is an elegant structure, in which is buried Jesse, the father of David. Near it is the house of the living (the cemetery) allotted for the Israelites. And below, at the mountain, near the city, are three wells named after the patriarchs, upon whom be peace. In the vicinity of the city, among the vineyards, are the oaks of Mamre, where is the house of Abraham our father, the tree also under which the angels ate, and the stone on which he sat, when he was circumcised."

Dr. Wilson examined the physical features of the neighbourhood of

Hebron. "The geological construction of the country," he says, "through which we passed to-day is exceedingly simple. The rock has the same character throughout. It is not, as is commonly represented in our books of English travel, a compact limestone, but a species of indurated chalk, like that of the upper Jura formation, with few but distinct separable organic remains. The cretaceous strata in some places cannot be very distinctly observed, owing partly to their depth and the manner in which they are covered with soil and jungle; but, generally speaking, they are in these parts in a horizontal position, with terrace rising upon terrace, as is more distinctly marked further to the north. The Wádís crossing the road, or leading off from it to the right, go to the Dead Sea. The highest part of the ridge, to which I have referred, is to the left hand, and from it the Wádís, in more or less circuitous courses, wind down to the Mediterranean. It is principally the action of water upon the ridge in past ages, and not any particular direction of eruptive force, which has cut and insulated various parts of the ridge into distinct eminences or separate hills, and caused the undulations which the traveller does not fail to observe. The facings of the terraces, and many small patches of the country here and there, are completely bare, or covered with yellow lichens; and this circumstance, as well as the light colour of the soil in general, gives to the eye accustomed to the dark loam and luxurious fields of Europe and the tropics an aspect of barrenness which is not really its characteristic, as is evident from the numerous shrubs and dwarf trees, and bushes of the prickly oak, or balut, and mountain juniper, with which large portions of it are covered. Culture is almost entirely abandoned; but a little farther to the east, on the Tekoa road, it is resorted to, to a considerable extent. The numerous ruins, however, on the heights and knolls, on each side of the road, mark the former populousness of the country."

GENESIS XIV.

AFTER the defeat of the five kings who reigned in the plain of the Jordan, by four warlike monarchs from the east, tidings reached Abram while he dwelt in Mamre that Lot his nephew had been taken prisoner, and his goods spoiled by the conquerors. The contending parties are named in verses 1 and 2 —"And it came to pass, in the days of Amraphel king of Shinar, Arioch king of Ellasar, Chedorlaomer king of Elam, and Tidal king of nations; That these made war with Bera king of Sodom, and with Birsha king of Gomorrah, Shinab king of Admah, and Shemeber king of Zeboiim, and the king of Bela, which is Zoar. All these were joined together in the vale of Siddim, which is the salt sea." The sounds of strife and bloody warfare broke in on Abram's quiet life under the oaks of Mamre. The leader of the invading forces was Chedorlaomer, king of Elam. This appears from verses 4 and 5. The kings of Sodom, Gomorrah, Admah, Zeboiim, and Bela, or Zoar, are said to have "served Chedorlaomer twelve years," and to have tried to throw off his yoke on the thirteenth year. "And in the fourteenth year came Chedorlaomer, and the kings that were with him." In verse 9 also he is named as the leader of the invaders. The origin of the war was thus the determination of the five kings of the plain of Jordan to continue no longer tributary to the king of Elam. The history of the world in its lust for conquest, its political ambition, and its social strife, here casts again, as in the case of Nimrod, its broad, dark shadows in upon the records of God's dealings as a God of grace with his people; and Abram, the man of faith, is forced from his peaceful pursuits to take part in the strife—to wield the weapons of the flesh. But the hard necessity to such a man in all this, came to him in the events of that providence which deals with the world equally as with the church. Nor was the man of peace found unready. The activity, the daring, and even the strategic skill of Abram, are noteworthy. Taking with him his confederates the Amorites, Aner, Eschol, and Mamre, "he armed his trained servants, born in his own house, three hundred and eighteen, and pursued them unto Dan. And he divided himself against them, he and his servants, by night, and smote

them, and pursued them unto Hobah, which is on the left hand of Damascus. And he brought back all the goods, and also brought again his brother Lot, and his goods, and the women also, and the people." But the rescue of Lot and his household were not the only fruits of this successful attack. Unexpected light is shed upon God's dealings with man, and his church is shown to have embraced others at that time than the Chaldæans, whom he had brought from Ur, and for whose seed Canaan was destined—"And the king of Sodom went out to meet him, (after his return from the slaughter of Chedorlaomer, and of the kings that were with him,) at the valley of Shaveh, which is the king's dale. And Melchisedek king of Salem brought forth bread and wine: and he was the priest of the most high God. And he blessed him, and said, Blessed be Abram of the most high God, possessor of heaven and earth: And blessed be the most high God, which hath delivered thine enemies into thy hand. And he gave him tithes of all" (ver. 17–20). This incident is deeply interesting. The reader of the foregoing narrative could not have pictured to himself anything in regard to the spiritual condition of men, outside of the Abrahamic household, but what was of the most gloomy kind. But suddenly rays of heavenly light break in on the picture. Melchisedek stands out in his royal priesthood to testify that the revelation of grace to Noah had not been lost after Noah's death, and that there existed in one locality at least a knowledge of him which had neither been corrupted by human fables, nor distorted by that superstition which so soon led the majority of men into wild and gross idolatry. Who was Melchisedek? The question has been often put, both because of the interest attached to him when regarded from the point of view now alluded to, and also from the higher interest which surrounds him as a more complete type of Christ than was the Aaronic priesthood itself. Any attempt at a full answer to the question would involve considerations foreign to our present task. Yet some notice must be taken of it, from the close contact into which Abram is brought with the royal priest of Salem. All the circumstances connected with Melchisedek's appearance before Abram on his return from his successful expedition, and the way in which he is referred to in the New Testament, have, naturally enough, led to a multitude of theories in regard to him. By some he is thought to have been an ordinary Canaanitish king, brought providentially under such impressions of the divine character as were Pharaoh and the king of Gerar; others have not the least doubt that he was Shem himself. Some believe he was Ham, several of whose posterity

had early taken possession of Canaan; others that he was a man specially raised up for this one act. Some allege that he was an angel; others that he was no other than the Holy Ghost. But it should be borne in mind that all speculation is vain here. Personal identification is impossible. The Bible narrative points mainly to his office. He was king and priest, and the type of the royal priesthood of Christ, who is a priest after the order of Melchisedek. Looking at the attempts to identify him with Shem, who survived during several years even of Isaac's life, it may be noticed that many things go to make it likely that families of the Shemites may have been in different parts of Canaan before it was finally occupied by the descendants of Ham. The religious life of the elder Shemites may thus have kept a hold of this part of Canaan until now. His relation to Abram is the next point of interest. This has been well stated by Dr. Kurtz in his "History of the Old Covenant:"—"Abram, the elect of Jehovah, is blessed by Melchisedek, and gives him tithes. This subordination is the more striking, as Abram was conscious of his high calling. . . . . Hence Melchisedek must have stood—at least relatively—higher than Abram, and the latter must have known and recognized this circumstance. We say, with Hofmann—'The greatness of Abram consisted in his hopes, that of Melchisedek in his present possession.' Melchisedek has at the time what Abram yet wants, and what is only promised to him as still future, and he bows before this exalted personage who meets him, perhaps quite unexpectedly, and whose existence may have been quite unknown to him. Melchisedek is a *priest* of the living God whom Abram served, while the patriarch is as yet only a *prophet*, the medium of that 'which Jehovah is to bring about.' To Melchisedek God has manifested himself as the God of the present, the possessor of heaven and earth, as the Most High; to Abram as the God of the future, who promises salvation, and as Jehovah. Melchisedek is recognized as the possessor and king of the country which is indeed promised to Abram, but of which as yet he does not possess any part. True, the future will, when unfolded, be much more glorious than the present, and Abram would, in a much higher and more perfect degree, become in his seed what Melchisedek was at that time. But the *possession*, although it be smaller, imparts for the time being a higher character than the *prospect* of greater privileges to come. All this Abram and, as it seems, Melchisedek also recognized. Hence Melchisedek owns in appropriate manner the future by blessing Abram, while Abram recognizes the present in giving tithes to Melchisedek. Melchisedek is the

last remaining blossom of a past development; Abram is the germ and commencement of a new development, fraught with blessing and with hope. Melchisedek is still within the old Noachic covenant, which rested on a universal, Abram is within the new covenant, which rests on a particularistic basis; and even in this respect the position of Melchisedek is more exalted. But this universalistic covenant terminated in one individual, just as Melchisedek stands alone among a degenerate race which had apostatized from God and adored the powers of nature. He is the only remaining servant and worshipper of the God who had entered into covenant with Noah. On the other hand, the particularistic covenant which commences with Abram is to enlarge into the fullest and most comprehensive universalism, destined to bring salvation to all nations; and in this respect the position of Abram is higher. Viewed from this point, all that might seem strange, as also the typical bearing of this narrative, as explained in the epistle to the Hebrews, is vindicated and accounted for."

Melchisedek was king of Salem. Was this Jerusalem? Dr. Stanley and some others hold that the city of Melchisedek is to be identified with Shalem, a city of Shechem, and that the whole transaction recorded here took place in Mount Gerizim. But the summary even of the reasons for regarding Salem as an ancient name for Jerusalem, given by Dr. Stanley, have much more weight than the grounds which he has stated in behalf of the other site. "The other and more popular tradition," he says, "supposes Salem to have been the ancient name of Jebus, and that the subsequent application of this name to the Holy City was merely a revival of its ancient appellation. In favour of this belief are:—1. The fact that Jerusalem is once so called in Psalm lxxvi. 2—

> "In Judah is God known:
> His name is great in Israel.
> In Salem also is his tabernacle,
> And his dwelling-place in Zion"

2. The authority of Josephus, who expressly identifies the Salem of Melchisedek with Jerusalem. "The name (of Melchisedek)," says the Jewish historian, "signifies the 'righteous king;' and such he was without dispute, insomuch that, on this account, he was made the priest of God: however, they afterwards called Salem Jerusalem. 3. The incidental confirmation of it in the name Melchisedek (King of Righteousness), which might seem to be the natural precursor of Adonizedek (the Lord of Righteousness), king of Jebus in the time of Joshua."

That Salem is to be identified with Jerusalem is strengthened by another reference here. The meeting was "at the valley of Shaveh, which is the king's dale" (ver. 17). Here in after times Absalom "reared for himself a pillar which is in the king's dale" (2 Sam. xviii. 19). The site of this pillar is in the immediate neighbourhood of Jerusalem.

Much spoil had been taken from the confederate kings, and the king of Sodom offered the goods to Abram. The patriarch's answer indicated his full appreciation of his standing as a witness for God in the midst of a people "who were wicked and sinners before the Lord exceedingly" (xiii. 13): "I will not take from a thread to a shoe-latchet, I will not take anything that is thine, lest thou shouldest say, I have made Abram rich." The same considerations would not, however, influence his allies, the Amorites. Accordingly, he bargains for "the portion of the men who went with him, for Aner, Eschol, and Mamre."

What information have we of the kings brought into such prominence in this chapter, and of the places mentioned in addition to those already noticed? Chedorlaomer, we have seen, was the leader of the kings from the East. He was king of Elam or Elymais, a kingdom again and again referred to as equal in political influence and power to Media, Babylonia, and Assyria. Its position on the Persian Gulf and on the south of Media and Assyria has already been noticed. Chedorlaomer's dominions would also embrace a large tract of modern Persia. The researches which have shed so much light upon Babylonian and Assyrian annals may yet reveal much of the earliest history of ancient Elam. Already, indeed, it is believed distinct traces of this king—the Ravager of the West—have been found. On some bricks recently discovered in Chaldæa the name Kudur-Mapula occurs. The first element in the name is clearly equivalent to the first in the name given in Scripture. "The second element in the name," says Sir H. Rawlinson, "is of course distinct from that in Kudur-Mapula. Its substitution may be thus accounted for:—In the name of Babylonian kings the latter portion is often dropped. Thus *Shalmaneser* becomes *Shalman* in Hosea x. 6, 14. Kudur-Mapula might, therefore, become known as *Kudur* simply. The epithet El Ahmar, which means the Red, may afterwards have been added to the name, and may have been corrupted into Laomer, which, as the orthography now stands, has no apparent meaning. Kedar-el Ahmar, or 'Kedar the Red,' is in fact a famous hero in Arabian tradition, and his history bears no inconsiderable resemblance

to the Scripture narrative of Chedorlaomer. It is also possible that the second element in the name of Chedorlaomer, whatever be its true form, may be a Shemitic translation of the Hamite term Mapula." Perhaps the ingenuity involved in this supposition is unfavourable to its probability, especially when it is borne in mind that Kudur-Mapula must have reigned over Babylonia. But in this narrative a king of Babylon, or Shinar, Amraphel, is associated with Chedorlaomer. In order to invest Sir H. Rawlinson's supposition with probability, we would need to hold that the territory Elam was much more extensive at this time than is generally believed, and Shinar much more limited. An absurd attempt has been made to identify Amraphel with Sardanapalus—an attempt which would confuse all chronology, and set at defiance every recognized rule of historical interpretation. As yet we have no other information concerning him than what is given here, unless, indeed, we take into account conjectures far less worthy of notice than those relating to Chedorlaomer. The third king confederate with the monarch of Elam was Arioch, king of Ellasar. In 2 Kings xix. 12, Sennacherib's chief captain is represented as addressing Hezekiah thus—"Have the gods of the nations delivered them which my fathers have destroyed; as Gozan, and Haran, and Rezeph, and the children of Eden which were in Thelasar?" And it has been alleged that Thelasar and Ellasar are one and the same. But this is not at all likely, because Arioch's dominions must have bordered on those of the king of Elam, which could not have been the case if these localities were identical. It is much more probable that Ellasar is the same as Larsa or Larcha of the Assyrian inscriptions. With these three kings Tidal, here called "king of nations," was joined as an ally in this expedition. A neighbouring king also, but unlike the others who ruled over one tribe, he appears to have been the chief of several districts inhabited by tribes differing from each other. Entering the plain of the Jordan, these men carried devastation before them. In their path from the East it is said that "they smote the Rephaims in Ashteroth Karnaim, and the Zuzims in Ham, and the Emims in Shaveh Kiriathaim. And the Horites in their mount Seir, unto El-paran, which is by the wilderness. And they returned, and came to Enmishpat, which is Kadesh, and smote all the country of the Amalekites, and also the Amorites that dwelt in Hazezon-tamar" (ver. 5–7). The words of verse 5 bring before us a race whose place in ethnology has not been determined. All attempts at identification are surrounded with insuperable difficulties. It is almost certain that they were not Canaanites.

Had they been so, it is most likely they would have been mentioned in Genesis x. The reference to them here reminds us that the earliest annals of almost every country bear allusions to the existence of a race antecedent to the historical inhabitants themselves—a stratum of a primeval people, distinct from those who took possession of their lands. They are in time driven into the remote and mountainous districts of the country, where a few of them hold their place for many generations, and turn up in the course of time in the same way as the fossilized remains of gigantic forms of pre-Adamic life are brought to light, amidst the living creatures of the present epoch. Their habits altogether unlike those of their invaders, and the daring heroism displayed by them against their conquerors, come in time to give rise to most extravagant notions regarding them, until they stand out, in gigantic proportions, in the mists of remote antiquity. Any theory as to their origin is open to objection. The most likely explanation, however, is, that they are the representatives of families who had drifted away from the great waves of population as these spread over the earth, and had taken possession of regions far removed from the localities at first occupied. As the human race increased, both necessity and adventure would lead to distant regions in search of new homes. And then the early wanderers would be met with in circumstances fitted to create wonder. A Japhetan tribe might thus meet a little band of Hamites, altered in feature by climatal conditions, differing from them in language, and shunning their approach as enemies and intruders. Nothing more would be needed to secure for them an exaggerated place in the early history of the dominant race. This, indeed, might be very fully illustrated from the records of our own voyagers in ancient times regarding the people met with on the coasts at which they touched, or in the islands in whose sheltered bays they cast anchor for a season. Even our recent knowledge of Patagonia will take a long time to dislodge from the popular mind the statements repeated thousands of times that the men, who are of an ordinary size, are not giants eight and ten feet high! In our notice of Genesis vi. 1–4, we have seen that there is authentic and reliable information as to a race of giants in the days before the flood. The references to such in after ages deal with individuals or separate households—not with a race. The cases are exceptional, and are to be considered as such. The same circumstances still continue. Men of giant stature are met with in civilized society. When they spring up among savage tribes, everything tends to push them into great prominence. There are likewise whole families of men

noted for superior physical development, and might be ranked with those referred to here.

"*The Rephaims*" are noticed first among those whom the king of Elam smote. In chapter xv. 20, they are again named among the nations whose land was destined for the seed of Abraham. Their dwelling on the east of Jordan is intimated in Deuteronomy ii. 9–12, where they seem to be included with the others specially named—"And the Lord said unto me, Distress not the Moabites, neither contend with them in battle: for I will not give thee of their land for a possession; because I have given Ar unto the children of Lot for a possession. The Emims dwelt therein in times past, a people great, and many, and tall, as the Anakims; which also were accounted giants, as the Anakims; but the Moabites call them Emims. The Horims also dwelt in Seir before-time; but the children of Esau succeeded them, when they had destroyed them from before them, and dwelt in their stead, as Israel did unto the land of his possession, which the Lord gave unto them." In Deuteronomy iii. 10–11, Bashan is said to have been still held by them in the days of Moses. "All Bashan, unto Salchah and Edrei, cities of the kingdom of Og in Bashan," was taken possession of by Israel. Of Og we are told that he only "remained of the remnant of the giants (*Rephaim*); behold, his bedstead was a bedstead of iron: is it not in Rabbath of the children of Ammon? nine cubits was the length thereof, and four cubits the breadth of it, after the cubit of a man." In their being classed with the other tribes conquered by Chedorlaomer, their seat on the east of Jordan is clear. But distinct traces of them are to be met with on the west of the Jordan as well. A remnant of them appears to have migrated, most likely at this period, to the west, and to have taken possession of a fertile valley on the south-west of Jerusalem, between it and Bethlehem, which was called the "Valley of Rephaim," or of the "Giants" (2 Sam. v. 18). When Isaiah describes the completeness of the judgments declared against "the glory of Jacob" (xvii. 4, 5), he likens it to the gathering in of the rich crops first, and then to the subsequent gleaning. It will, he says, be as thorough as this—there shall none of Israel be left. "And in that day it shall come to pass, that the glory of Jacob shall be made thin, and the fatness of his flesh shall wax lean. And it shall be as when the harvest-man gathereth the corn, and reapeth the ears with his arm; and it shall be as he that gathereth ears in the valley of Rephaim." The valley even yet retains something of its ancient fruitfulness. "As we advanced," says Dr. Robinson, when describing his

approach to Jerusalem from the Bethlehem road, "we had on the right low hills; and on the left the cultivated valley or plain of Rephaim, or the Giants, with gentle hills beyond. This plain is broad, and descends gradually towards the south-west, until it contracts in that direction into a deeper and narrower valley. . . . . The plain of Rephaim extends nearly to the city, which, as seen from it, appears to be almost on the same level. As we advanced, the plain was terminated by a slight rocky ridge, forming the brow of the valley of Hinom." There is little doubt that this plain was near Jerusalem. The Jewish historian speaks of the Philistines "having made war against David at Jerusalem," and adds, that "they seized upon that valley which is called the valley of the Giants, and is a place not far from the city" (Antiq. vii. 4, 1).

The picture of the company assembled at this time around Jerusalem, or within its walls, is full of interest. Melchisedek, "King of Righteousness and Priest of the most high God;" Abram, the "man of faith, the friend of God;" the princes of the wicked and doomed cities of the plain; and the Rephaim who had escaped from the hands of the king of Elam! Whence the element of attraction? Was it in the renown of Melchisedek as the righteous king and the priest of God? Were the accompaniments of his reign as truly typical as his official standing and his person were? It is impossible to look thoughtfully on the scene after the slaughter of the kings, without remembering the words of Zechariah, as he describes another gathering around Salem:—"Thus saith the Lord of hosts, It shall yet come to pass, that there shall come people, and the inhabitants of many cities: and the inhabitants of one city shall go to another, saying, Let us go speedily to pray before the Lord, and to seek the Lord of hosts; I will go also. Yea, many people and strong nations shall come to seek the Lord of hosts in Jerusalem, and to pray before the Lord" (viii. 20–22).

The derivation of Rephaim has, without good reason, been sought in *Rapha*, the name of a man contemporary with David, who had a family of giants. Thus we are told that "there was again a battle with the Philistines at Gob; then Sibbechai the Hushathite slew Saph, which was of the sons of the giant"—literally "the sons of *Rapha*." Goliath likewise was a son of Rapha, who had two other sons, besides Goliath and Saph, of giant stature. "These four were born to Rapha in Gath" (2 Sam. xxi. 18–22). It has indeed been asserted, that Goliath, named in this passage, is not the same as the giant slain by David (1 Sam. xvii), but not, as I think, on good grounds.

Taking then the giant whom David's captain, Elhanan, slew, as being the brother of Goliath (2 Sam. xxi. 21), and this seems warranted by 1 Chronicles xx. 4, 5, the sons of Rapha were Goliath, Saph or Sippai, Lahmi, and another unnamed, who is described as "a man of great stature," whose fingers and toes were four and twenty, six on each hand, and six on each foot," who was slain by David's nephew, Jonathan the son of Shimea. The origin of the word has also been sought in an alleged allusion to the dead—the popular notion of the "giant shades." Several passages may be quoted in support of this. "The man that wandereth out of the way of understanding shall remain in *the congregation of the dead*"—the congregation of the Rephaim (Prov. xxi. 16); "*They are deceased*, they shall not rise"—they are as the Rephaim, they shall not rise, and "the earth shall cast out *the dead*"—the earth shall cast out the Rephaim (Isa. xxvi. 14, 19). So, likewise, in Psalm lxxxviii. 10–12—

> "Wilt thou shew wonders to the dead?
> Shall the dead arise and praise thee?
> Shall thy loving-kindness be declared in the grave?
> Or thy faithfulness in destruction?
> Shall thy wonders be known in the dark?
> And thy righteouness in the land of forgetfulness?"

The words "shall the dead arise" of verse 10, are, as in the other examples cited, literally "shall the Rephaim arise"—an expression which nowhere else occurs in the Psalms. The "mighty dead" seem evidently pointed to here, and, indeed, the original word is thus paraphrased in the authorized version in Isaiah xiv. 9:—"Scheol" (the residence of the fallen spirits), that is, "hell from beneath is moved for thee to meet thee at thy coming; it stirreth up the dead for thee (the dead = the Rephaim or gigantic shades), even all the chief ones of the earth ('chief ones' = he-goats); it hath raised up from their thrones all the kings of the nations." The same thought is embodied in Job xxvi. 4–6, a passage hopelessly obscure if dissociated from this idea. "To whom hast thou uttered words? and whose spirit came from thee? Dead things are formed from under the waters, and the inhabitants thereof. Hell is naked before him, and destruction hath no covering." The words "dead things" are literally "Rephaim," who, as in the words last quoted from Isaiah, are named along with "hell" (*scheol*). The only other passage which claims notice here is Proverbs ii. 18, where the practical moral lesson attached to the word is even more clearly announced. Young men are warned against "the strange woman, who

forsaketh the guide of her youth, and forgetteth the covenant of her God, for her house inclineth unto death, and her paths unto the dead"—the Rephaim.

The following inferences may warrantably be drawn from this examination:—(1) The Rephaim were a race of tall and powerful men dwelling on the east of the Jordan in the days of Abram. (2) They had a possession on the west of the Jordan—a valley near to Salem. (3) A race corresponding in stature, and most likely descended from the tribe conquered by Chedorlaomer, existed in the days of Moses. (4) In the time of David a family of giants were leagued with the Philistines, in hatred of, and active war against Israel. These were sons of Rapha, a name which may have been borrowed from the ancient designation Rephaim—or tall ones—though its owner may most likely have had no connection, as by descent, with the giants who dwelt in the plain of the Jordan in the days of Abram. And (5) the fact that the name is used to indicate the dead, in the popular sense of mighty departed spirits who dwell in the place of the wicked, seems to suggest, that the Rephaim were the special enemies of God. They have gone to their own place, and all who continue morally vile and openly wicked have their portion with them.

Some of the foregoing remarks bear upon the other tribes mentioned in verses 5 and 6. It will not be necessary to examine their probable history so minutely. They are neither so frequently referred to in Scripture as the Rephaim, nor are their names used in so many different senses.

"*The Zuzims*" are next described. These are most likely the same as the Zamzummims mentioned by Moses:—"And when thou comest nigh over against the children of Ammon, distress them not, nor meddle with them: for I will not give thee of the land of the children of Ammon any possession, because I have given it unto the children of Lot for a possession. That also was accounted a land of giants: giants dwelt therein in old time; and the Ammonites call them Zamzummims; A people great, and many, and tall, as the Anakims; but the Lord destroyed them before them; and they succeeded them, and dwelt in their stead" (Deut. ii. 19–21). Their name points them out as a "wild restless tribe." Their great stature and prowess are characterized by Moses in comparing them with the Anakim.

"*The Emims*" are also said by Moses to have been "a people great, and many, and tall as the Anakims," and were also counted giants. Their name points to their fierceness. They were "the terrible men."

"*The Horites*" are the same as the *Horim* of Deuteronomy ii. In the genealogical lists of Genesis xxxvi., the sons of Seir, the Horite, are mentioned. The children of Esau ultimately took possession of their country, though Esau himself appears to have married a Horite, Anah the daughter of Zibeon (ver. 2, 24). Horite literally means "dweller in a cave," or "troglodyte," and the rock dwellings of Petra (Edom) are believed to be the remains of Horite abodes.

The Rephaim were smitten in their principal town, here called Ashteroth-Karnaim, or Ashteroth of the twin horns, the suffix being designed to distinguish it from Ashteroth in Bashan, a place which was, at a later date, a Levitical city. This place is thought to be represented by the modern *Tel Ashtereh*, a great mound about twenty-five miles from Bozrah. The Zuzim dwelt in Ham, in the district between the Arnon and the Jabbok; the Emim in Shaveh-Kiriathaim, a district given at a later period to the tribe of Reuben; and the Horites inhabited the mountains of Seir, or Edom.

The circumstances connected with the first references to these giant tribes, were well fitted to appeal to the imaginations of men in early times, and in thinly peopled countries, the inhabitants of which roamed over wide tracts, and spent much of their time amidst wild deserts. Even the city-loving and cultivated Jew of the time of Josephus, appears to have been little behind the nomad families in this respect. The author of "The Land and the Book" gives some illustrations of the absurd length to which these wild imaginations are carried in the East to this day. He says:—"That there were in times past men of extraordinary size, is a tradition wonderfully prevalent to this day all over the East. It not only runs through their legendary lore, but is embodied in numerous monuments of a more substantial character, as the tomb of Noah at Kerak, in the Buk'ah, and that of Seth at Neby Sheet, on the eastern side of the same plain. To what extent such fables corroborate the historic facts of the Bible every one must decide for himself; but the traditions themselves, and these commemorative monuments, are extremely ancient, reaching back to the times of myth and fable. The truth appears to be, that there were among the governing races of primitive times certain families of gigantic stature. This peculiarity was carefully perpetuated and increased by such marriage restrictions as tended to that result; and something similar has been found among the inhabitants of the Pacific islands. For anything beyond this, tradition, that delights in the marvellous and monstrous, is probably accountable. Every distant object seen through

her telescope is distorted and vastly exaggerated. If we pass from fact to fable, we may pause a moment on the first step in the scale of exaggeration, and hear the returned spies terrifying their brethren at Kadesh by their false report: 'All the people that we saw in the land are men of great stature. There we saw the giants, the sons of Anak, which come of the giants; and we were in our own sight as grasshoppers, and so we were in their sight.' You may now enter any coffee-shop on a mild summer evening, and, as twilight shadows settle on the silent auditors, listen to the professional *hakwatieh* amplifying the dimensions of these ancient men of renown, until—the coffee sipped and the argela out—the hearers separate, stroking their beards, and muttering *Ma sha Allah!*—'God is great!' But the flights of these story-tellers are tame and timid in comparison with the the unfettered excursions of rabbinical imagination. Hear what they say about Og, king of Bashan:—The soles of his feet were forty miles long, and the waters of the deluge only reached to his ankles. He being one of the antediluvian giants, escaped the general destruction, and reappears in subsequent history as Eliezer of Damascus, Abraham's servant. Abraham, who was only of the size of seventy-four ordinary men, could yet scold most terribly. Under his rebuke Og trembled so violently that one of his double teeth dropped out; and this the patriarch made into an ivory bedstead for himself, and ever after slept upon it. When Moses, who was ten ells high, attacked this same Og—by this time king of Bashan—he seized an axe ten ells in length, jumped ten ells high, and then struck with all his might—*where?* why, on *his ankle.* That blow finally killed him, for Rabbi Jochanan says, 'I have been a grave-digger, and once, when I was chasing a roe, it fled into a shin-bone. I ran after it and followed it for three miles, but could neither overtake it nor see any end to the bone; so I returned and was told that this was the shin-bone of Og, king of Bashan.' But enough of this nonsense. Go to Kanah, and the old Metāwely sheikh there will entertain you till midnight with an account of the process by which Abraham tamed this unruly servant into obedience somewhere in the marshes of the Hûleh, below Tell el Kady. Coming back from such grotesque and monstrous fables, we may be thankful for the sober and credible statements of the Bible, which only require us to believe that there were in primitive times certain persons of very large stature, who were called giants."

The position of the five cities of the plain—the *Pentapolis*, as the confederate cities have been called—was in the vale of Siddim—"All

these were joined together in the vale of Siddim, which is the Salt (or Dead) Sea" (ver. 3). These localities are more fully noticed under chapter xviii. In the description of the victory over the Horites, it is said that Chedorlaomer smote them "in their mount Seir, unto El-paran, which is by the wilderness" (ver. 6). Mount Seir, which appears to have taken its name from "Seir the Horite" (Gen. xxxvi. 20), was originally inhabited by the wild Horite families, and afterwards by the Edomites. It included the mountainous tract which extends from the Dead Sea, in a south-west direction, to the top of the eastern arm of the Red Sea, or Elanitic Gulf, as this part of the Red Sea is now named. This wide tract will be again noticed in connection with other passages of Scripture. El-paran—or the Terebinth of Paran—was a noted terebinth tree (*Pistacia terebinthus*) on the borders of the desert of Paran. This was the point farthest to the south-west to which the invaders penetrated. They seem to have struck down into the plain of the Jordan, from the outlying ridges of Hermon to the north of the Sea of Galilee; to have passed through the district of Bashan, where they met with the Rephaim; then farther south by the regions later inhabited by Moab and Ammon; and on to the edge of the wilderness of Paran. Thence they returned, and marching north-east, they would reach the desert of Zin, which was included in the wilderness of Paran. Here lay En-mishpat, or the "Well of Judgment," a town afterwards noted in the history of the church as Kadesh, and Kadesh-barnea. Kadesh means "the consecrated city." Both its original name, and that which it afterwards came to bear, are thus suggestive. "There can be no question," says Dr. Stanley, "that, next to Sinai, the most important of all the resting-places of the children of Israel is Kadesh. It is the only one dignified by the name of 'a city.' Its very name awakens our attention—the 'Holy Place'—the same name by which Jerusalem itself is still called in Arabic, 'El Khods.' It is probably the old oracular 'Spring of Judgment,' mentioned as existing in the earliest times of Canaanite history." From Kadesh the confederate invaders turned to the west, met Amalek and overcame them, and then attacked the Amorites, who dwelt in Hazazon-tamar, literally the place "of the pruning of the palm-trees." A key to the position of this place is given in 2 Chronicles xx. 2. Tidings came to Jehoshaphat—"There cometh a great multitude against thee from beyond the sea, on this side of Syria; and, behold, they be in Hazazon-tamar, which is En-gedi." They were, then, now on the west of the Dead Sea, and were about to follow up their successes by the conquest of the cities of

the plain. Their victory was complete, and they returned bearing with them the captives and the spoil which they had taken. Abram with his trained servants and his Amorite allies, set out in pursuit, came suddenly on them, smote them, and followed up his advantage until he came to "Hobah, which is on the left hand of Damascus." (For the notice of Damascus, see under Jeremiah xlix. 24). Hobah, or "the hiding-place," was on the north of Damascus. Tradition associates Hobah with the modern Muslem village Jôbar. It is, however, more likely that the modern Burzeh, from its position, from the old traditions clinging to it, with its *wely*, or saint's tomb, may occupy the site of the ancient Hobah on the north of Damascus. "We leave," says Mr. Porter, "the city by the Bab-Tûma, and an hour's ride northward through orchards and across an open plain brings us to the village of Burzeh, beautifully situated at the mouth of a wild glen. The plain is here slightly elevated, and the view over the Ghûtah splendid. Attached to Burzeh is one of the oldest traditions in Syria. Behind it, at the foot of a cliff, is a common Muslem wely, called Makâm Ibrahîm, the 'Sanctuary of Abraham.' It is held in high repute as a place of pilgrimage, and thousands of devotees visit it annually on a certain day. Miracles, too, are performed at it by sheikhs of extraordinary sanctity, who ride on horseback, Juggernaut style, over the prostrate naked bodies of the faithful, without injury or accident! Blessed is the man, in their estimation, on whom the horse treads. Josephus gives the following quotation from the lost historical work of Nicolaus of Damascus:—'Abraham reigned at Damascus, being a foreigner, who came with an army out of the land above Babylon, called the land of the Chaldeans. But after a long time he got up and removed from that country also with his people, and went into the land then called the land of Canaan, but now the land of Judea. . . . . Now, the name of Abraham is even still famous in the country of Damascus; and there is shown a *village* named from him the Habitation of Abraham.' This tradition we can trace down through a long line of Arab authors to the present day. Burzeh is the village, and the Muslems, with whom Ibrahîm is a saint and prophet, venerate it in honour of the patriarch. In a cleft behind the wely he is said to have prayed on his return from the pursuit of the Mesopotamian kings who pillaged Sodom."

GENESIS XV.

THE slaughter of the kings and the rescue of Lot's household were followed by another revelation of God directly to Abram, in which the promises of covenant mercy were made even more clear. In a vision the Lord makes himself known to Abram as "his shield and exceeding great reward" (ver. 1). The child of promise is spoken of, and Abram's faith is put to the test anew. Eliezer of Damascus, he is told, shall not be his heir. "But he that shall come forth out of thine own bowels shall be thine heir. And he brought him forth abroad, and said, Look now toward heaven, and tell the stars, if thou be able to number them. And he said unto him, So shall thy seed be. And he believed in the Lord; and he counted it to him for righteousness" (ver. 4–6). "I have given thee this land," said God: "How shall I know this?" asked Abram. The answer was to be given in connection with the offering of a sacrifice to God—"And God said unto him, Take me an heifer of three years old, and a she-goat of three years old, and a ram of three years old, and a turtle-dove, and a young pigeon. And he took unto him all these, and divided them in the midst, and laid each piece one against another; but the birds divided he not. And when the fowls came down upon the carcases, Abram drove them away" (ver. 9–11).

When the flush of victory over the king of Elam had passed away, all the circumstances associated with the meeting of Melchisedek brought painfully home to Abram his own relation to the land in which he was now dwelling, and the circumstances of his household. These feelings underlie the thoughts brought out in the words now quoted. He was childless. Separated from most of his kinsfolk, and having no community of interest even with Lot, he had already destined the wealth he had got in Egypt for his steward Eliezer. Of what use to him, then, this promise of Canaan? When his thoughts were darkest, light from heaven again beamed brightly in on his soul. He addressed God as "Jehovah Adonai"—the immutable Governor of the world—an expression which showed that his heart was still true to him, even in the midst of his doubts. The Lord heard and led him forth, from the

shadows cast by the wide-spreading branches of the oaks of Mamre, into the open plain, and as the orbs of heaven gleamed out in myriads from the deep blue lift, God said to him, "Look, and tell the stars, if thou be able to number them; so shall thy seed be." The promise was believed, and Abram was fitted for receiving a yet higher revelation of God. Thus the covenant-sacrifice is prepared. Was the first direct approach of the Spirit of God to Abram here in the morning? Had he been "talking with his heart on his bed," and not able to sleep when the word of the Lord came to him in the vision? And was he led forth from beneath the oaks just before the light of day began to stretch its bright fingers over the peaks of Abarim, and down on the rich plain of Jordan—the time when the stars are most brilliant in that land? It is likely that this was the season, for the vision and the sacrifice follow in order, and prepare for the second vision "when the sun was going down" (ver. 12). The whole day seems to have been given without interruption to God.

A question has been raised in regard to the mode in which the events recorded here took place. Dr. Kurtz is of opinion that, "considering the external and internal connection of these events, the whole took place in a vision, so that the description in verse 1 applies to the whole chapter." But the circumstances connected with the offering of the covenant-sacrifice—the choice of the animals, the preparing of these for being offered, and the driving away of the birds of prey—are opposed to this opinion. This objection is not removed by the statement, that "the inward sense is not raised by depressing the outward senses;" or that "when what is divine affects human nature, the natural harmony is not disturbed, but elevated and properly adjusted." This view is true in the highest sense when applied to the usual work of the Spirit of God on the hearts of God's people. It is not true, when regarded in the light of this extraordinary vision. The narrative suggests the true explanation. We have the remarkable vision—we have "the cessation of the ecstatic state," leaving Abram's spiritual nature in deep sympathy with the mind of God, and then we have the words of the promise, followed by the covenant-sacrifice. The vision is broken; but under the lively state of feeling resulting from it, Abram, as a revived man, prepares the offerings. These consist of an heifer, a she-goat, and a ram, each three years old, and of a turtle-dove and a young pigeon. The direct agency and presence of God in the transaction are not so clearly seen in our Bible as in the original. The expression "take me" (ver. 9) is literally "take for me" an heifer, &c. The age of the first

three animals to be offered was limited. They were ordered to be three years old. "A precept," says Kalisch, "given nowhere else, and therefore, by its emphatical repetition, in our passage certainly significant. But here we must urge that the number three in the Old Testament nowhere denotes 'the divine nature and everything which stands in any immediate connection with God or has any reference to Him,' as a sagacious and learned critic has laboured to prove; it seems even as if Mosaism had scrupulously avoided to invest it with such a degree of importance. But there are sufficient traces to show that, according to Hebrew conceptions, three was regarded as representing unity and completeness; a complete alliance able to withstand all attacks consists of three friends (Eccl. iv. 12); Elijah bends three times over the widow's son, and thus only regards his pious ceremony complete (1 Kings xvii. 21); the complete invocation of the angels consists of a threefold 'holy' (Isa. vi. 3); and three visits made annually to Jerusalem, and three prayers offered daily to God, complete the worship of the pious Israelite (Exod. xxiii. 14; Ps. lv. 17; Dan. vi. 10). The animals three years old represent, therefore, their species completely and entirely; they are neither weak by being too young nor too old."

The quadrupeds were divided, but the birds, it is specially said, "were not divided" (ver. 10)—a circumstance which, equally with the dividing of the others, was regarded as containing a known truth connected with this kind of sacrifice. The animal offered was divided into two portions, and between these the covenanting parties passed, when it was held that the bargain was closed—the covenant perfectly ratified. The usual idea attached to this act was, that even as these animals were divided in twain, so the contracting party who might violate the agreement deserved to be killed. The Lord condescending to the weakness of his servant, employs here the customary rite, in order to give him the impression of the binding nature of the promise on the faithful One Himself. This custom continued to later times among the Hebrews. Thus the allusion to it in Jeremiah xxxiv. 18, 19—"And I will give the men that have transgressed my covenant, which have not performed the words of the covenant which they had made before me, when they cut the calf in twain, and passed between the parts thereof, the princes of Judah, and the princes of Jerusalem, the eunuchs, and the priests, and all the people of the land, which passed between the parts of the calf," &c. A like observance prevailed among the Gentile nations. Covenant-breaking, unfaithfulness to promise, and the shortcomings of princes to their kings, were not unfrequently punished by a

human victim being cut in two, while the alleged unsinning party passed between the parts. The transaction between Pythius the Lydian and Xerxes, recorded by Herodotus, supplies an apt illustration. "Pythius had promised his five sons to swell the ranks of Xerxes in his invasion of Greece; but alarmed by the prodigy seen in the heavens (a solar eclipse) when the mighty multitudes were on the point of leaving Sardis, he asked that one of his sons might be left to him. Xerxes was enraged at what he considered a breach of duty. 'Learn this well,' he said, 'that the spirit of man dwells in his ears; which when it hears pleasing things, fills the whole body with delight, but when it hears the contrary, swells with indignation. When, therefore, you did well, and gave promise of the like, you cannot boast of having surpassed the king in generosity. But now that you have adopted a more shameless conduct, you shall not receive your deserts, but less than your deserts; for your hospitality preserves four of your children, but you shall be punished with the loss of the one whom you cherish most.' When he had given this answer, he immediately commanded those whose office it was to execute such orders, to find out the eldest of the sons of Pythius, and to cut his body in two; and having so done, to deposit the halves, one on the right of the road, the other on the left; and that the army should pass between them. When they had done this, the army afterwards passed between."—(Her. vii. 39, 40.) This is another proof of the common origin of many of the observances, in which heathenism sometimes seems to meet the chosen and peculiar people of God. As regards the former, however, features are ever found to characterize the rite, which indicate grievous departure from the mind of God in its original appointment.

The animals used in this covenant-sacrifice are specially noticed below (*Heifer*, under Gen. xli. 2–4; *the Goat*, under Gen. xxvii. 9; *Ram*, under Gen. xxxi. 38; *Turtle-dove and Pigeon*, under Lev. i. 14—which see). That the birds were not divided, is to be traced to the fact, that the two mentioned here are, in other passages, regarded as one, and were interchangeable in the system of sacrifices afterwards prescribed to Israel. "The turtle-dove and the pigeon were usually only taken as a substitute for the other sacrifices in cases of need (Lev. v. 7; xii. 8); they were, therefore, both together here regarded as *one* part of the sacrifice only; hence they were not, like the other animals, divided, but each of them was considered as one half, and was placed opposite the other." Any explanation of verses 11 and 12, which leaves out of view the force of the expression "take for

me an heifer," &c. (ver. 9), must be unsatisfactory. The first approach to Abram was, as is ever the case in God's dealings with man, on the part of Jehovah. He had asked the sacrifice, and in this alone are we to find the key to the patriarch's delay beside the sacrifices. He waits to see what the Lord, who had demanded them, would do. Was fire to come from heaven and to consume the victims? Was there to be some manifestation of God in connection with them, far other than Abram had yet seen? Under this state of uncertainty he waited, and as he watched, "the vultures" had marked the prey, "and they came down upon the carcasses, and Abram drove them away" (ver. 11). The picture is exceedingly graphic and true to the reality. "Where the carcass is there will the eagles be gathered together." While he waited, he was no doubt under profound impressions of the nearness of the special presence of God, and his whole spiritual nature would be in a peculiarly lively and susceptible condition. But the state of "vision" was clearly past for the time. The attitude is that of a man calmly waiting in a state of common consciousness on God. A symbolic value has been attached to this attitude. Abram has been held to represent in this action, the period of Israel's history in Egypt, and the vultures the Egyptians trying earnestly—"wildly endeavouring —to frustrate the alliance between God and Israel." This is plainly an attempt to attach a significance to the transaction, which it was not intended to bear. The lesson, drawn from the transaction by A. Fuller, is more in harmony with the spirit of the narrative, though fancy plays some part in it also. "Having made ready the sacrifices, he waited, perhaps, for the fire of God to consume them, which was the usual token of acceptance; but meanwhile the birds of prey came down upon them, which he was obliged to drive away. Interruptions, we see, attend the father of the faithful in his most solemn approaches to God; and interruptions of a different kind attend believers in theirs. How often do intruding cares, like unclean birds, seize upon that time, and those affections, which are devoted to God! Happy is it for us, if by prayer and watchfulness, we can drive them away, so as to worship him without distraction."

The mental peculiarity which resolves to find in every incident touched on here, the foreshadowing of other facts than those named by the Spirit of God, sees in the sleep of Abram recorded in verse 12, a proof of weakness, like that which overtook the disciples in Gethsemane! Such an inference greatly mars the beauty and faithfulness of this description. There is no room for the thought, that, "if Abram had

continued watchful, the sleep would not have come on him." The occasion for the watchfulness had ceased. The well known habits of the vultures had led them away from the scene to their roosting-places, on the shelving rocks of the wild mountains lying around Hebron. "A deep sleep fell on Abram; and, lo, an horror of great darkness fell upon him" (ver. 12). He was terrified by the sense of the awful presence of God. The material darkness which had now settled down on the world, was more than equalled by the darkness of soul which had fallen on Abram. But as in many lands the darkest part of the night is that which lies on the very edge of the dawn, this spiritual terror hankered on the threshold of joy. Thus we have the renewal here, in even yet plainer terms than before, of the promise of blessing to Abram and his seed. And this is ratified by the Almighty himself, who had ordered Abram to "take for him" the sacrifices. "When it was dark, behold a smoking furnace, and a flame of fire that passed between the pieces."

The revelation to Abram contained in this chapter may be arranged under five heads:—1st, A numberless progeny; 2nd, An intimation of the long and severe trials of his descendants in a strange land; 3rd, The assurance of complete and triumphant deliverance to them, and judgment upon their oppressors; 4th, the promise of everlasting life to Abram, at the close of a lengthened sojourn on earth; 5th, A well designed description of the extent of the land to be given to his descendants, contemporaneously with the general destruction of the nations of Canaan, which are named in verses 19–21.

The peculiar form of expression used in verse 15, warrants the inference, that the promise now given to Abram included a distinct intimation of the enjoyment of eternal life. "Thou shalt go to thy fathers in peace." Much unprofitable speculation has been entertained with regard to the patriarchal and Mosaic notions of the immortality of the soul. It has been gravely doubted whether the men of those times clearly apprehended the truth. The absence of express utterances on the point have even been held to warrant the conclusion, that they had no distinct views of an unseen world and of a life beyond the grave. But all this results from an entire misconception of the object of those early records of our race, contained in the oldest books of Scripture. They are historical rather than dogmatical—they deal with facts rather than with doctrines. The scope of the hopes which animated the patriarchs, is to be ascertained from the lives they led, and not from any positive statements of abstract truth. So much of the early records as is taken up with descriptions of the religious rites of the times, deals chiefly with

the provision made for the manifestation of the devotional feelings of the people, and of their hopes touching national glory and greatness, *as a specially favoured people.* But the whole history of God's dealings with man, from Adam to Moses, would be worse than meaningless, if we conclude that the belief in an unseen world, of the continued existence of the soul, after the body was laid down in the grave, and even of retribution on the other side of death, were not generally held by men. The whole plan of God's dealings with the church, and his ways before the world, proceeded on the recognition of the existence of this belief. Yea more, it is not claiming too much for the church from Adam to Moses, to allege that the acknowledgment of the covenant character of God, as a Father, powerfully influenced all who belonged to it. Abram was to go to his fathers, who had gone to be with their Father in heaven. The place of his fathers and the grave are here manifestly kept separate. If the latter clause of verse 15—"thou shalt be buried in a good old age"—be held to be simply a repetition of the former clause—"thou shalt go to thy fathers in peace"—the meaning of the verse would be destroyed. In this sense Abram could not go to his fathers, who had all been buried far remote from the land of promise—in the plains of Mesopotamia; whereas, Abram was buried in Canaan.

This promise of a blessed immortality followed the intimation to Abram of the thraldom of his seed in a strange land during a long protracted period, and under much suffering. They were to be afflicted four hundred years. Persecuted, they were not to be forsaken, for God was to judge their oppressors. The Lord meets Abram's rising fears with, in substance, this statement—"It shall be thus with them, but I will undertake for them; as for thee, thou shalt go to thy fathers in peace."

A general statement of the period which elapsed between the time of the promise of Canaan, and the time of its fulfilment, is implied in verses 12–16. The period of the sojourn of the promised seed in Egypt is likewise announced in general terms. They were to be afflicted four hundred years, and in the fourth generation God was to undertake for them. The chronology of the sojourn in Egypt is involved in great difficulties, on account of the way in which it is mentioned in other portions of the sacred text. Here the period is reckoned four hundred years. In Exodus it is definitely stated to have been four hundred and thirty. "Now the sojourning of the children of Israel, who dwelt in Egypt, was four hundred and thirty years. And it came to pass, at the end of the four hundred and thirty years. even the self-

same day it came to pass, that all the hosts of the Lord went out from the land of Egypt" (xii. 40, 41). But in the speech of Stephen to the Jewish council, the words first spoken by God to Abram are quoted, and the period is again reckoned as four hundred years—"And God spake on this wise, That his seed should sojourn in a strange land; and that they should bring them into bondage, and entreat them evil four hundred years. And the nation to whom they shall be in bondage will I judge, said God: and after that shall they come forth, and serve me in this place" (Acts vii. 6, 7). Another element is introduced by Paul into this question, which at first sight appears to define the period with even greater precision. In the Epistle to the Galatians (iii. 17), when meeting the new heresy, that the covenant with Abraham must have been abolished by the giving of the law, he takes occasion to show the harmony between the revelation of God in the Abrahamic covenant and that contained in the law. In doing this, he associates the covenant with the law—the discovery of God to Abram under the oaks at Mamre, and that given to Moses and the congregation of Israel at Sinai. The time, he says, which elapsed between these revelations was four hundred and thirty years. "And this I say, that the covenant, that was confirmed before of God in Christ, the law, which was four hundred and thirty years after, cannot disannul, that it should make the promise of none effect." From this it is clear that Paul, looking in a general way at the whole transaction recorded in this chapter, reckoned the period of the promise from the time of the covenant with Abram to the giving of the law at Sinai. A close examination of Galatians iii., will show that, even though the apostle introduces his reference to Abraham by quoting Genesis xv. 6, he does not limit the reference to God's dealings with the patriarch at Mamre. He has evidently in view the whole period of his life from the time he was specially met by God at Haran, up to the vision in connection with which the covenant was made with him. Those years, in which he walked as a man of faith, were thus reckoned one with the occasion on which special honour was put on this walk, "in the same day that the Lord made a covenant with Abram." This mode of reckoning is illustrated in the detention of the Israelites forty years in the wilderness. They had been at least two years out of Egypt when, because of their sins, they were told—"But as for you, your carcases, they shall fall in this wilderness. And your children shall wander in the wilderness forty years, and bear your whoredoms, until your carcases be wasted in the wilderness. After the number of

the days in which ye searched the land, even forty days (each day for a year) shall ye bear your iniquities, even forty years; and ye shall know my breach of promise (Num. xiv. 32–34). But in this "forty years," the time which they had already spent on the way to Canaan was included. This consideration would lead us to conclude, that the period of four hundred and thirty years began with the departure of Abram from Haran. This, moreover, suits the date of the Exodus when looked at in the light of the chronological table given above. In the quotation from Exodus, much emphasis is laid on this—"at the end of the four hundred and thirty years, even the self-same day." Taking the date of his departure from Ur of the Chaldees, as B.C. 1923, and reckoning the period of his sojourn in Haran as two years, we have—

Departure from Haran, ...	B.C. 1921
Date of the Exodus, ...	B.C. 1491
	430

This chronology is the result of a comparison of many particulars—as, for example, the ages of the patriarchs from Abraham to Moses, the average duration of human life, as hinted at by the mention of "the fourth generation," the numbers of the children of Israel at the time of leaving Egypt, and the genealogical notices in Exodus and Numbers. Still, an important difficulty remains. The statement that they were to be afflicted in the strange land "four hundred years" (ver. 13) is repeated in Acts. There is thus a period of thirty years to be accounted for. The solution of the apparent difficulty seems to me to be supplied in the context. The whole period, as in the case of the forty years in the wilderness, is defined in a general way, as the words "in the fourth generation they shall come hither again" testify. The years are four hundred, but the fourth generation extended, as Moses shows in Exodus, to four hundred and thirty. In Genesis the centuries are named with the generations; in Exodus the exact number of years is specified. Stephen, when before the Jewish sanhedrim, quoted the words in this chapter in the same way as they are here used. But when Paul wished to give definiteness to the harmony between the faith of Abram and the works of faithful men under the law, he thinks of the direct manifestation of God to Abram in Haran, and then says "that the revelation on Sinai was four hundred and thirty years after." The question has thus been surrounded unnecessarily with a multitude of difficulties. Besides, few interpreters have looked at this without

bias. By some, like Dr. Colenso, it has been pointed to as an apt illustration of the uncertainty alleged to belong to all Scripture chronology; and by others it has been used in support of favourite chronological theories. A specimen of these theories will show the reader how little reliance is to be placed on any, which are proposed on grounds other than those supplied by the Word of God itself. The scriptural information relates chiefly to the data furnished in genealogical lists by the mention of the ages of certain men, to the distinct and positive statements of the writers of sacred history—as when Moses mentions four hundred and thirty years—and to fair inferences regarding the length of time necessary for the increase of the numbers of the people, from a few to a mighty host; such, for example, as is seen in the increase of Israel during their sojourn in Egypt. Chronological data arrived at from other sources may have much corroborative value; but when they are antagonistic to those got at in the way referred to, we commit ourselves to a sea of uncertainty the moment any of them are relied on. The following illustration of this uncertainty is taken from Dr. Kurtz's "History of the Old Covenant:"—"Whilst Bengel, Baumgarten, and others pronounce four hundred and thirty years much too long a period, according to the standard of their biblico-theological system, for the stay of the Israelites in Egypt, Bunsen measures it by the standard of his Egypto-chronological system, and decides that it is much too short. And his conviction that the statement is not historical is strengthened by the fact, that four hundred and thirty years is just double the two hundred and fifteen years of the patriarchs. These two hundred and fifteen patriarchal years he considers historical, because they form part of the tradition. 'For the period of the stay in Egypt no historical reckoning was handed down any more than the history itself. Hence the patriarchal number was doubled, and the number thus obtained was applied to a period of much longer duration, and treated as historical, though not founded upon genealogical tables.' Lepsius, on the other hand, arrives at the very opposite conclusion, and thinks that he can find in Exod. vi. 16, *sqq.*, a proof of his Egyptologico-chronological statement, that the Israelites did not remain in Egypt more than about ninety years!" Extravagant as is the last supposition, it is exceeded by many others which might be quoted.

Closely connected with the prophecy of Israel's sojourn in "the strange land," is the reason assigned for this in verse 16—"The iniquity of the Amorites is not yet full." "The Amorites" are named here in a general way for all the Canaanites. (See under Numbers

xiii. 17.) The truth pointed to is, that the earth is the Lord's, and that the various families of men hold different regions under his appointment, and for him, the sovereign proprietor. When in his providence any portion of it is gifted to a certain tribe, he does not renounce this proprietorship over it. His providential dealings with nations will never be understood until this be acknowledged. This truth is the key to all history. When, therefore, Abram was told that "the iniquity of the Amorites was not yet full," he was not informed that there was anything exceptional in thus dealing with the Amorites. The information on their case was given directly. In most other cases the truth is to be learned by a process of historical inference. Even Abram's seed were not to be put beyond the application of this principle. For their sin they are at this moment exiles from the land promised unto them as Abram's children. All history, sacred and profane, teems with illustrations. There was thus nothing harsh, unroyal even, in the divine procedure with the Amorites—with the nations of Canaan. The vineyard is the Master's own—the earth is the Lord's—and he has a just and sovereign title to the fruits of it. In the case of the Amorites, indeed, the same rule had been applied to tribes which had preceded them in the occupancy of Canaan. Traces of these are met with in the Rephaim, the Emims, the Zuzims, &c., who held the land when the children of Canaan took possession of it.

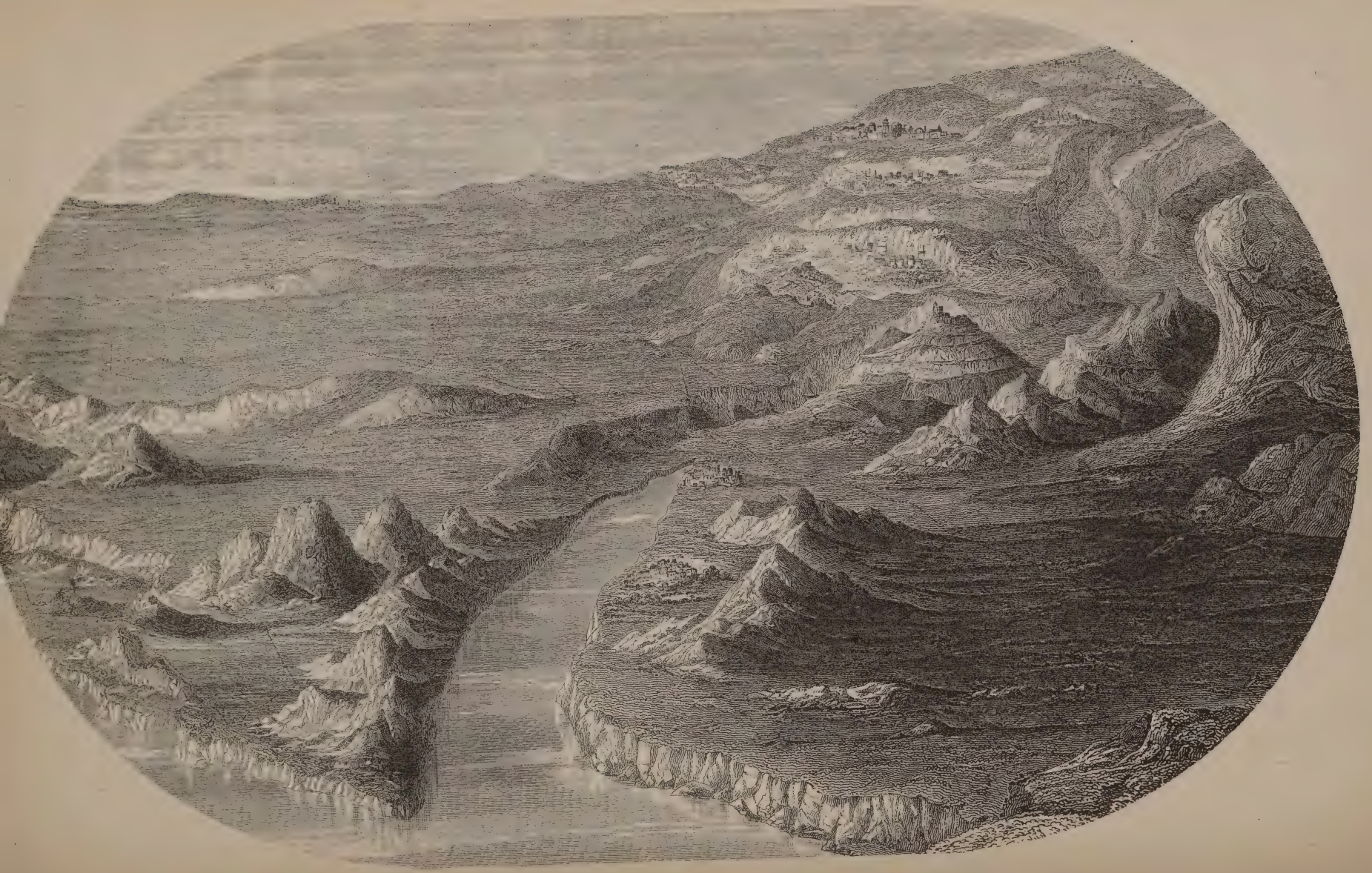
After the ratification of the covenant by the act—the presence of God passing between the pieces (ver. 17)—the boundaries of the promised land are, with much distinctness, named to Abram—a transaction which must have given him much material for thought as he wandered during the years of his pilgrimage in the places and among the tribes specially named:—"Unto thy seed," said God, "have I given this land, from the river of Egypt unto the great river, the river Euphrates: The Kenites, and the Kenizzites, and the Kadmonites, and the Hittites, and the Perizzites, and the Rephaims, and the Amorites, and the Canaanites, and the Girgashites, and the Jebusites" (ver. 18–21). The limits of the land and the tribes named here will be considered when we come to look more particularly at Canaan. Meanwhile it may be pointed out that the attempts made by Drs. Wells, Kitto, and others, to identify the "river of Egypt" with the *Rhinocolura*, the modern Wady el-Arish, are not successful. This brook, which falls into the Mediterranean Sea at a point about nine hours' ride distant from Gaza, indeed, lies on what might be held to have been for a long period the limits of the land in the direction of Egypt. But this is not

the boundary line mentioned here. "The river of Egypt" (*nahar Mitzraim*) is without doubt in this passage the Nile, and is to be distinguished from the "brook of Egypt" (*nahal Mitzraim = Torrens Egypti, Rhinocolura*), which is truly represented by the Wady el-Arish, to the south-west of Gaza. This *brook*, as in many other passages the word is translated, is frequently mentioned as the "river of Egypt," when it is clear the Nile cannot be referred to. Thus of the "border of Judah" it is said, "It passed towards Azmon, and went out unto the 'river of Egypt' (*nahal Mitzraim*); and the goings out of that coast were at the sea: this shall be your south coast" (Josh. xv. 4). Indeed the fact that both in Hebrew and in our Bible the word now quoted (*nahal*) is employed to designate brooks, streams, and valleys alike, is a strong presumption against its use for the Nile. A ravine, with water coursing through it, is before the minds of the writers who use it. Thus Isaac is represented as pitching "his tent in the valley (*nahal*) of Gerar" (Gen. xxvi. 17). When Jacob reached the Jabbok, he took his wives and children, "and sent them over the brook (*nahal*)" (xxxii. 23). In the Psalmist's reference to the smitten rock at Horeb, he says—"Behold, he smote the rock, that the waters gushed out, and the streams (*nahal*) overflowed" (Ps. lxxviii. 20). It may be safely concluded, that while the modern Wady el-Arish is frequently named in Scripture "the river of Egypt," yet the expression used in the chapter now under notice refers to the Nile itself. The Hebrew word (*nahar*) employed here points to a water of much greater volume than the other word (*nahal*), used chiefly to indicate a stream or brook.

GENESIS XVI.

SHADOWS again creep over the brightness of Abram's character. He had believed God, and his faith was counted unto him for righteousness. But the long delay in the fulfilment of the promise led to attempts to hasten it, which were not good in the sight of God. Sarai, in her impatience, persuades Abram to take Hagar, her Egyptian handmaid, to wife, in the hope that by her one might be raised up to inherit the promise. "Unbelief is very prolific of schemes; and surely this of Sarai is as carnal, as foolish, and as fruitful of domestic misery as could almost have been devised. Yet such was the influence of evil counsel, especially from such a quarter, that 'Abram hearkened to her voice.' The father of mankind sinned by hearkening to his wife, and now the father of the faithful follows his example. How necessary for those who stand in the nearest relations to take heed of being snares instead of helps one to another! It was a double sin—first, of distrust; and secondly, of deviation from the original law of marriage, and which seems to have opened a door to polygamy. We never read of two wives before, except those of Lamech, who was of the descendants of Cain; but here the practice is coming into the church of God." The declension began in a household in which it was least to be looked for, and the first grievous departure from the mind of God in the matter of marriage which is mentioned after the flood, is on the part of one whose very covenant standing bound him to an opposite course. Ishmael was born as the fruit of this union with Hagar. The natural pride of the Egyptian handmaid—the grief of Sarai at being mocked by her—Sarai's hard dealing with her whom she had been instrumental in lifting out of her right place in the household—Hagar's consequent flight—the meeting between the angel and Hagar—the promise of a seed to the bondwoman "which should not be numbered for multitude"—and the birth of Ishmael when "Abram was fourscore and six years old"—are the chief incidents recorded in this chapter. Very few points in it claim special notice.

It is said of Hagar that, "when Sarai dealt hardly with her, she fled from her face. And the angel of the Lord found her by a fountain of



DESERT OF SHUR, ISTHMUS OF SINAI, HEAD OF THE RED SEA, MOUNTAINS OF ESAU,

water in the wilderness, by the fountain in the way to Shur" (ver. 6, 7). Let it be kept in mind that Abram at this time was still dwelling at Mamre. Hagar must thus have already wandered far away from it. Manifestly she was on her way back to Egypt again. She had taken a south-west direction, and had reached a fountain near to the desert of Shur (named *Sdur* by Shaw), a wild tract lying on the west and south-west of the desert of Paran, and between it and the Great Sea, reaching to the Red Sea. The angel sent her back again to Sarai, and in doing so gave her the large promise in verse 10—"I will multiply thy seed exceedingly, and it shall not be numbered for multitude." The first step to the fulfilment of this was the birth of Ishmael—a name chosen for him by the angel, in the same way as Isaac's was (xvii. 19). The numerous illustrations of the faithfulness of God, in respect of this promise, are pointed out under chapter xxv. 12; where, also, a fuller account both of Hagar and Ishmael is given. The name Hagar literally means "flight," and Ishmael signifies "whom God hears." We know from the New Testament (Gal. iv. 21–31) that a typical element is linked with Hagar's position, so very vividly pictured here. Her character as a type of certain great spiritual features in the after experience of the church of Christ, may have had other aspects than those by which she is named in connection with the place of Israel under the Sinaitic covenant. It is, for example, impossible to peruse this chapter thoughtfully without being struck with the suggestive character of Hagar's hard treatment at the hands of the Hebrew matron, Sarai, and her subsequent flight. The Hebrew persecutes the Egyptian, who hastens for safety to the desert of Shur, in the way to Egypt. Centuries later, it was for a season the time of Egypt's power. The Egyptian persecuted the Hebrew, who in turn hastened away, as a great nation, from Egypt into the same desert, with their faces towards Canaan.

GENESIS XVII.

THE narrative of God's dealings with Abram progresses. God's promises become greater and more full of meaning, and the son of Terah himself is made to stand out in bolder relief before the church. The incidents recorded in this chapter give completeness to the transactions of chapter xv. In the latter, Abraham is seen standing by while God, in his grace, ratified his promises over the sacrifice which the patriarch had offered "for him" (ver. 9). Here, Abram is admitted to a higher standing both as to privilege, blessing, and duty, than he had been before. Abram was ninety-nine years old when the Lord appeared to him under a name suggestive of new privileges and new responsibilities. Abram had known him as "God" (*Elohim*)—the supreme one, the creator of all things; he had met with and used his name as "the Lord" (*Jehovah*)—the eternal one, and yet a covenant God, related to a people chosen and called by his grace; he had approached him in confidence as "the great Governor" of the world (*Adonai*). But now he for the first time gets yet another view of God and of his relation to him, when addressed in the words, "I am the almighty God" (*El Shaddai*). There is no doubt a profound meaning implied in the varied names by which God made himself known, when they are regarded in the light of the circumstances in which the name is first revealed. Special interest comes to be attached to the new designation of God, mentioned in the first verse, from the way in which the Lord himself referred to it at a later period. In Exodus vi. 2, 3, we are informed that "God (*Elohim*) spake unto Moses, and said, I am the Lord (*Jehovah*). And I appeared unto Abraham, unto Isaac, and unto Jacob, by the name of God Almighty (*El Shaddai*), but by my name Jehovah was I not known unto them." That they were acquainted with the mere letters of the name, and were even in the habit of using it, cannot be doubted. They did not, however, enter into all that blessed meaning in the name, in the way that the faithful among their descendants were to do. The lavish blessing to Abram implied in this name, and the deeper insight which it was fitted to give him into his own relation to all that was promised, are well expressed by an old

writer. Preston, in his "Saint's Portion" (1630), appropriately renders the words (Gen. xvii.), "I am God All-sufficient." "As if he should say," he adds, "if there were any defect in me, if thou didst need or couldest desire anything that could not be had in me, and thou mightest have it elsewhere, perhaps thy heart might be imperfect in walking towards me, thou mightest then step out from me, to take in advantages elsewhere; but seeing I am God All-sufficient, since I have enough in me to fulfil all thy desires, since I am every way an adequate object, that if thou lookest about, and considerest all that thy soul can wish for, thou mayest have it in me, why, then, shouldest thou not consecrate thyself to me alone? Why, then, shouldest thou be uneven in thy ways, serving me sometimes by fits, and sometimes the creature? For there is nothing in the creature but thou mayest find it in me; I am All-sufficient; therefore walk before me and be perfect." This was substantially the lesson here taught to Abram, and it was acknowledged by him—"He fell on his face." The promise received still greater enlargement; and that it might never cease to be before the patriarch and his seed, his name was altered, and in the change associated with the promise—"Neither shall thy name any more be called Abram (= father of elevation—noted one), but thy name shall be Abraham (= father of a multitude), for a father of many nations have I made thee. And I will make thee fruitful, and I will make nations of thee, and kings shall come out of thee" (ver. 4–6). Sarai likewise shares in the blessing, and gets a new name—"As for Sarai thy wife, thou shalt not call her name Sarai (= one contentious), but Sarah (= princess, queen) shall be her name" (ver. 15).

The properly so called Abrahamic covenant is thus formed, and associated with a rite which was to become the perpetual sign of the covenant. This was circumcision. "And God said unto Abraham, Thou shalt keep my covenant therefore, thou, and thy seed after thee, in their generations. This is my covenant, which ye shall keep, between me and you, and thy seed after thee; every man-child among you shall be circumcised. And ye shall circumcise the flesh of your foreskin; and it shall be a token of the covenant betwixt me and you. And he that is eight days old shall be circumcised among you, every man-child in your generations; he that is born in the house, or bought with money of any stranger, which is not of thy seed. He that is born in thy house, and he that is bought with thy money, must needs be circumcised: and my covenant shall be in your flesh for an everlasting covenant. And the uncircumcised man-child, whose flesh of his fore-

skin is not circumcised, that soul shall be cut off from his people; he hath broken my covenant" (ver. 9–14).

The appointment of circumcision, as the sign of the covenant with Abraham, has bearings which are as full of interest, when looked at from an ethnological point of view, as they are when regarded from one purely religious. Its deep spiritual import as a type first attracts our attention here. "My covenant shall be in your flesh for an everlasting covenant." "Ye shall keep it between me and you, and thy seed after thee." This implied intimate relation between the rite and the perpetuation of the seed, until through it blessing should come by Christ to the whole world, is highly suggestive. God engrafted on the minds of the patriarchs the clear conviction of a truth, which was dimly seen even by the world, viz., that in the propagation of the race, there was naturally an unsanctified element. Circumcision was the acknowledgment of this. "To Abraham and to his descendants generation had its religious import, being the medium by which the covenant was to develop—'In thy seed shall the nations of the earth be blessed.' The fulfilment of this promise implied that the seed of Abraham should continue until salvation was fully exhibited before all the nations of the earth. Up to that period, then, generation was to be directly subservient to covenant purposes, which could not have been attained without it. But merely natural generation, which, in the case of Abraham, could not have been the means of producing the first link in the chain, would, even in his descendants, not have led to the goal in view. Hence, in the covenant, God promised his co-operation, and as his power at the first gave to Abraham the first link of the great chain, much more does his omnipotence appear in the production of the last link in which the promise was to be wholly fulfilled. Merely ordinary generation could not produce that seed through whom salvation should be brought, because this seed must have been free from the guilt and condemnation which result from sin." Thus, the rite came to have yet deeper, but at the same time more familiar relations, to the men of the olden times. If even the generation of the covenant people is to be sanctified and devoted to covenant purposes, it follows, as a matter of course, that their whole life, which commences with this generation, is to be set apart for these objects (Rom. xi. 16), to subserve and to advance them. The child begotten in circumcision is thereby sanctified for the covenant (1 Cor. vii. 14), and this is realized when, in turn, it undergoes circumcision. Circumcision, which is to remove the growth of nature—that which is unholy and impure—from the principle and

source of life, is, so to speak, to extend its power and influence through all the ramifications of life. It implies the obligation of withdrawing all the other relations of life from the dominion of nature, of circumcising the foreskin of the heart, of the lips, of the ear, &c., (Lev. xxvi. 41; Deut. x. 16, xxx. 6; Jer. iv. 4, ix. 25, &c.), and of devoting heart and mind to the duties and purposes of the covenant. The new-born child was to be circumcised on the eighth day. This ordinance had its origin in the sanctity attaching to the number 7. Seven periods (days, years, weeks of years) form a cycle in which smaller or larger circles are described, to be in turn followed by new circles and a new development. Hence, the eighth period of the old formed always the commencement of a new development, and the child was to be circumcised after the first seven days had run out. By circumcision the child entered into covenant with God; he was introduced into a new world—into the kingdom of God—and a new era commenced in his life. This was to take place when, with the eighth day, a new cycle had begun. That Ishmael, the son of the "bondwoman," and even the servants of Abraham were admitted to this rite, does not interfere with its directly spiritual bearings now noticed. This shows, on the one hand, how wide the embrace of this covenant was, that these all had an offer of its blessings. If they missed these, it was by their own act. It shows, on the other hand, the household bearing of the covenant; and in Abraham's dedication of his household to God we acknowledge the healthy condition of his religious views. To this feature in his character the Lord himself afterwards referred—"I know him, that he will command his children and his household after him, and they shall keep the way of the Lord, to do justice and judgment; that the Lord may bring upon Abraham that which he hath spoken of him" (xviii. 19).

The existence of this rite, among people who had long ceased to offer the acknowledgments of love and worship to the true God, opens up to us other topics of interest. The practice of the rite can be traced nearly over the whole world. One of the oldest notices of it occurs in Herodotus. The Colchians he holds were originally Egyptians—"because the Colchians, Egyptians, and Ethiopians, are the only nations of the world who, from the first, have practised circumcision. For the Phœnicians, and the Syrians in Palestine, acknowledge that they learnt the custom from the Egyptians; and the Syrians about Thermodon and the river Parthenius, with their neighbours the Macrones, confess that they very lately learnt the same custom from the Colchians. And these are the only nations that are circumcised, and thus appear

evidently to act in the same manner as the Egyptians. But of the Egyptians and Ethiopians, I am unable to say which learnt it from the other, for it is evidently a very ancient custom. And this appears to me a strong proof that the Phœnicians learnt this practice through their intercourse with the Egyptians, for all the Phœnicians who have any commerce with Greece no longer imitate the Egyptians in this usage, but abstain from circumcising their children" (ii. 104).

It has been conclusively shown by Sir G. Wilkinson that circumcision was practised in Egypt, "at least as early as the fourth dynasty, and probably earlier, long before the birth of Abraham." It existed among the Cushite tribes of Ethiopia. Even still it is met with among the South Sea Islanders—in the Fiji, Society, and Friendly Isles. In Central America it was practised in the dedication of the child to the god Huitzilopochtli. Dr. Livingstone has pointed out its presence among some of the South African tribes. "All the Bechuana and Caffre tribes," he says, "practise circumcision (*boguera*), but the rites observed are carefully concealed. The initiated alone can approach, but in this town (Sekomi's, a Bechuana) I was once a spectator of the second part of the ceremony of circumcision." This he describes, and adds that it is "not observed by the negro tribes beyond 20° south, that it is a civil rather than a religious rite, and that probably it was only a sanitary and political measure; and there being no continuous chain of tribes practising the rite between the Arabs and the Bechuanas, or the Caffres, and as it is not a religious ceremony, it can scarcely be traced, as is often done, to a Mahometan source" (Travels, pp. 146–149). Dr. Livingstone afterwards describes an analogous ceremony, held on the admission of women into certain rights in their tribes. It is clear, then, that the rite of circumcision was both older and more extensive in its range, than the limits of the seed of Abraham. In regard to this, the general remark may be made that "a comparison of the religious symbols of the Old Testament with those of ancient heathendom, shows that the ground and the starting point of those forms of religion which found their appropriate expression in symbols, was the same in all cases, while the history of civilization proves that, on this point, priority cannot be claimed by the Israelites. But when instituting such an inquiry, we shall also find that the symbols which were transferred from the religions of nature to that of the spirit, first passed through the fire of divine purification, from which they issued as the distinctive theology of the Jews, the dross of a pantheistic deification of nature having been consumed. Taking this view of the subject, we do not hesitate to

admit that the circumcision of the Egyptians, or, if you like, of any other nation, originated at the same time with, or even prior to, that of Abraham." (*Kurtz.*) But we cannot but be struck with the fact, in examining these traces of this rite, that wherever it has been met with, it stands dissociated from religion, with the exception of Egypt, and, perhaps, of Central America. Does this indicate its state when God assumed it as a sign of the covenant with Abraham? Was it originally associated with primitive worship, and was it perverted from its true meaning when God again elevated it to the rank of a divine institution? Such questions may be answered affirmatively. At first a divine ordinance, it had become degraded from its place, even in the religion of nature—though its physical bearings were still acknowledged, and God put it in its true position once more, as a sign of a great covenant—the type of spiritual blessing, a symbol of profound moral significance. "Translated into words, the meaning of it was, 'Be ye holy, for I am holy;' 'Walk before me, and be thou perfect.' Outward in the flesh, and so according with the sterner genius of the old economy, it imprinted on the mind of every Hebrew the peculiar closeness of his own relations to the pure and perfect God, and the necessity therein implied of fearing and of loving him, and circumcising more and more the foreskin of the heart" (Deut. x. 12–16). Thus regarded, we can fully understand how every Hebrew should look upon the rite with feelings of deep and sacred interest. It was to every one of the seed of Abraham both the proof that God had met with his fathers in the way of blessing, and also the sign of a covenant which directed the national mind to the Messiah himself. Thus it was scrupulously observed by every Jew. On the eighth day after birth, the male child was brought to the *mohel*, or circumciser, who cut away the foreskin, or prepuce, and from this time every male was held to be set apart as holy unto God. All the privileges of his nation as a peculiar people were opened up to him. He was formally, and in the midst of religious rejoicings introduced, as sanctified, to the spiritual blessings also, associated with the service of the sanctuary and with the promise of the Messiah.

GENESIS XVIII.

THE narrative of Abraham's life increases in interest as we proceed. It shows him in the midst of wider relations even to the world around him, than might have been naturally expected from his position in the land in which he was still a stranger. This chapter opens with a pleasing picture of patriarchal life. An hour or so after mid-day—the heat of the day—he was seated in the door of his tent, pitched still under the leafy wide-spreading oaks of Mamre, in the attitude of thoughtfulness, his eye resting on the green sward around him, when his meditations were interrupted. "And he lift up his eyes and looked, and, lo, three men stood by him: and, when he saw them, he ran to meet them from the tent door, and bowed himself toward the ground, and said, My Lord, if now I have found favour in thy sight, pass not away, I pray thee, from thy servant. Let a little water, I pray you, be fetched, and wash your feet, and rest yourselves under the tree: and I will fetch a morsel of bread, and comfort ye your hearts; after that ye shall pass on: for therefore are ye come to your servant, And they said, So do as thou hast said" (ver. 2–5). The whole scene is peculiarly attractive, and supplies an apt illustration both of eastern hospitality and of that polite and gentlemanly bearing which should ever accompany true love to God. Those here named "men," are described afterwards as "angels" (xix. 1). Abraham appears to have discerned their true character at first glance. One of them excelled in dignity, and to him the patriarch addressed himself. This was no other than the Angel of the covenant, spoken of in verse 17 as "Jehovah." Are we struck with the absence of haste, amazement, and excited action in their first meeting? We can account for such calm, respectful, and polite behaviour, only by bearing in mind, that such appearances of God to man formed parts of God's self-manifestation to the men of faith in those early times. The Saviour once and again, as if anticipating the time of his true incarnation, took a real human body, and in it dealt with his people. By his special charge also the angelic nature was sometimes associated with the human body; and, like men, "the ministering spirits were sent forth

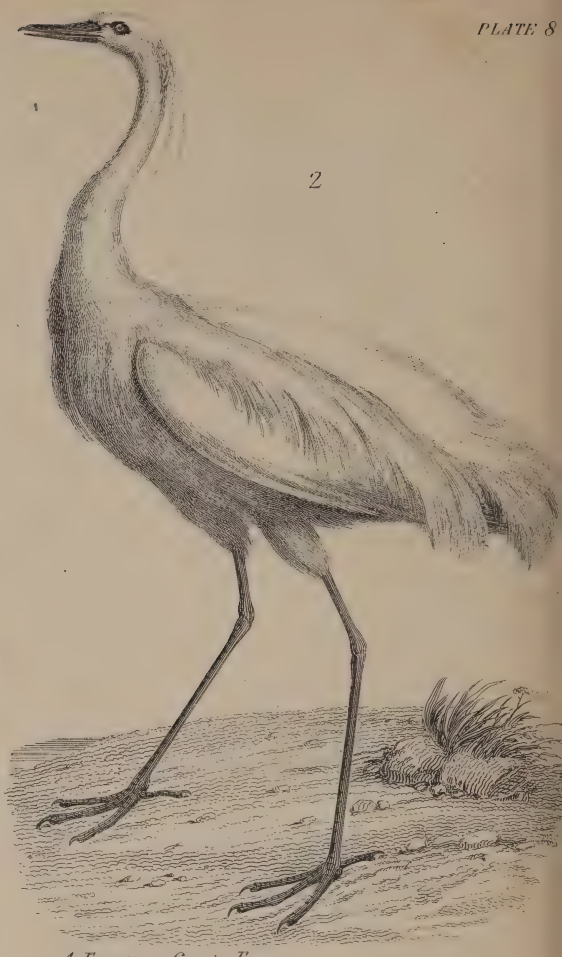
to minister for them who were heirs of salvation" (Heb. i. 14). The invitation of Abraham was a step to the fulfilment of the errand on which the divine messengers had come. Sarah, rather than Abraham, was the person sought. Her husband had at once communicated his wishes to her, and Sarah's activity was engaged in preparing the meal —the newly baked bread, as the eastern custom still is; the newly killed calf, tender and good; the butter and the milk which the herd supplied. Just such a feast as the Arab chief till this day hastens to place before new-come guests. "Where is Sarah thy wife?" asked the angels. "And he said, Behold, in the tent." Sarah's womanly curiosity had been quickened, as in the women's division of the tent she heard her name mentioned: "Sarah thy wife shall have a son." The bloom of her life had passed. Hope touching the promised seed through her had left her. "She heard it in the tent door which was behind him," and she laughed, saying, "Shall I of a surety bear a child, which am old?" "Is any thing too hard for the Lord?" was the only answer; "at the time appointed I will return unto thee, according to the time of life, and Sarah shall have a son" (ver. 14). Her faith in the promise was restored, and like Abraham, she became an example of faith. "Through faith also Sarah herself received strength to conceive seed, and was delivered of a child when she was past age, because she had judged him faithful who had promised. Therefore sprang there even of one, and him as good as dead, so many as the stars of the sky in multitude, and as the sand which is by the sea-shore innumerable" (Heb. xi. 11, 12).

The men left the shadowy groves of Mamre, where they had honoured Abraham by partaking of his hospitality. The act was one of great condescension, but, nevertheless, it was truly done, even by the Angel of the covenant himself. In order that it may be seen in its true bearing it must be regarded in the light of the corresponding act mentioned in Luke xxiv. 41–43—"While they yet believed not for joy, and wondered, he said unto them, Have ye here any meat? And they gave him a piece of a broiled fish, and of an honeycomb. *And he took it, and did eat before them.*"

Two of the angels passed on to Sodom, the Lord tarried with the patriarch on the heights from which he could get a view of the whole vale of Siddim. There he told Abraham of the coming doom of Sodom, and there occurred that wonderful pleading with God for the wicked cities, which makes up the remaining portion of this chapter. The position can scarcely be mistaken. "We climbed," say Messrs. M'Cheyne and

Bonar, "the highest hill to the south-east of Hebron, to obtain, if possible, that view of the plain of Sodom which Abraham had on that morning when it was destroyed from heaven. In the valley, we passed with some difficulty through the vineyards, regaled by the delightful fragrance. . . . . The vineyards stretch up the hill beautifully, and groves of deep green olives inclose it on every side. Hebron is embosomed in hills. . . . . Looking to the south, over a high ridge of hills, the eye stretches into a wilderness-land of vast extent. In that direction lay Carmel. But the most interesting of all was toward the east, not on account of its beauty, but on account of its being in all probability the view which Abraham had when 'he looked toward Sodom and Gomorrah, and toward all the land of the plain, and beheld, and, lo, the smoke of the country went up as the smoke of a furnace.' A high ridge intercepts the view of the Dead Sea, but the deep valley formed by it, and the hills of Moab on the other side, are clearly seen. If Abraham stood on the hill where we were now standing, then he saw, not the plain itself, but 'the smoke of the country rising up' as from a furnace. If he saw the plain, then he must have stood on the intervening ridge nearer the Dead Sea. There can be little doubt but it was in this direction that Abraham led the three angelic men on their way towards Sodom, and we felt it a solemn thing to stand where Abraham drew near and pleaded with the Lord, 'Wilt thou also destroy the righteous with the wicked?' What wonders of mercy and judgment these mountains have seen!"

A. Cinerea. — Common Heron.



A. Egretta. Great Egret.

B. Stellaris. Bittern.

T. Lacteus. — *Milky Ibio.*

THE HERON AFTER HER KIND.—Lev. xi. 19.

GENESIS XIX.

THE two angels reached Sodom in the evening, and found Lot sitting in the gate of the city—a place of common resort; because "in the gate" the judge sat to decide causes, the prophet in later times frequented it to declare the message from God, the merchant made his market "in the gate," and there, in hours not given to work, the population congregated to discuss public events. It is thus not needful to imagine, either that Lot's hospitable spirit was of such an absorbing kind that he frequented the gate to look out for guests, or that he was so identified with Sodom that he had become a chief ruler in it, and was thus at his post as a magistrate. It would be a place to him of frequent resort, and He to whose will all providences are obedient led him thither at the precise time when the angelic messengers approached. The description of the wickedness of the Sodomites—their blasphemy, vileness, and abominable impurity—is given in a few brief but wonderfully graphic sentences. Lot's bearing throughout clearly reveals the two phases of his character, which seem to have been very distinctly marked. His first intercourse with the wicked people "vexed his righteous soul," yet he did not separate from them. And there can be no doubt that the wicked ways of the people had cast their deep, dark shadows on the moral nature of Lot himself. Much in his ways reminds us of his connection with Abraham, but much also of his conformity in many things to the people among whom he now dwelt. Neither his views of his daughters, before Sodom was destroyed, nor his intercourse with them afterwards, was such as his past history warrants us to expect. "He was," as one says, "far from possessing an eminent degree of piety or faith. For, though he protected his guests with earnestness and zeal against the shameless impetuosity of the population, he forgot, in the exercise of his virtue, another duty of equal sacredness; in order to save the strangers, he intended to give up his daughters to perpetual ignominy; in attempting to be a faithful friend, he forgot to be an affectionate father; and whilst he had courage enough to rise for the safety of wanderers, he had no heart to feel the shame of his house. This weak-

ness assumes a far more serious character from the fact, that those daughters were already betrothed (ver. 14), and, therefore, inviolable. And they were betrothed to Sodomites, who appear to have in every respect equalled the wickedness of their fellow-citizens. For they mocked the idea that God should either have the will or the power to punish a depraved town; they spurned the hand extended to save them; and they deserved to perish in the general destruction. Lot, in forming or admitting an alliance with men so completely degenerate, showed that his horror against crime was not intense, and that his soul was already seriously affected by the society which surrounded him, and which he had chosen. In fact, he was far from exhibiting that alacrity in obeying the angels which true piety would have inspired; he tarried so long that he almost brought himself and his house into imminent danger; and had not the angels urged him on, or rather led him away, he might have shared the fate of the wicked town." His deliverance was another testimony to the sovereign grace of God—"Haste thee, escape thither; for I cannot do anything till thou be come thither: therefore the name of the city was called Zoar. The sun was risen upon the earth when Lot entered into Zoar. Then the Lord rained upon Sodom and upon Gomorrah brimstone and fire from the Lord out of heaven: And he overthrew those cities, and all the plain, and all the inhabitants of the cities, and that which grew upon the ground" (ver. 22–25).

Several subjects referred to in the context claim special notice:—

1. *The Geographical Position of the Destroyed Cities.*—The names of the cities were Sodom, Gomorrah, Admah, and Zeboim, four out of the five mentioned in the narrative of the war with Chedorlaomer, Zoar, or Bela, having been saved at the special request of Lot. These cities were situated in the vale of Siddim, or "valley of the fields." Two features have been stated as originally characteristic of this vale: it was fruitful, yet here and there marked by the existence of "slime pits"—wells of mineral pitch or asphalt. The region, even at the time of Abraham's arrival in it, about four thousand years ago, must have thus, even with all its beauty as being like the garden of the Lord, have had many marks about it of active volcanic influences before the doomed cities were destroyed. It may be affirmed, then, that the "vale" included the whole area occupied by the south end of the Dead Sea and the peninsula El-Lisan, with a considerable tract beside. Mr. Porter sums up his notices of the history of the locality thus:—"Now comes a most important epoch in the physical history of the 'vale of

Siddim.' In the Scripture narrative of the battle of the five kings, 'pits of bitumen' are spoken of, into which many fell in their flight. The name *Sodom*, too ('*burning*'), if it be not derived from the subsequent catastrophe, shows that the marks of fire had already passed over the doomed valley. Abraham, then dwelling at the Oak of Mamre, by Hebron, received the visit of the angels, and accompanied them towards Sodom. After his urgent appeal on behalf of the cities, he returned to his tents; but early the next morning he went to the same spot, 'and looked toward Sodom and Gomorrah, and toward all the land of the plain, and beheld, and lo, the smoke of the country went up as the smoke of a furnace' (Gen. xix. 28). Lot, driven forth from Sodom at the first dawning of the morning, reached the 'little city' of Zoar as 'the sun was risen upon the earth' (id. xix. 15, 23); and Zoar, as we have seen (Rte. 4), was situated on the eastern shore of the sea, near the broad promontory of Lisân. These facts prove that the doomed cities and their well-watered plain were towards the southern end of the lake, for otherwise Abraham could not have seen them from any point at an easy distance from Hebron, and Lot could not have gained Zoar in the short interval between dawn and sunrise. This southern section, too, as we have seen, is very shallow." Dr. Robinson points to the same conclusion as to the sites of the destroyed cities. The well-watered plain which Lot saw towards the south contained the cities of Sodom and Gomorrah. "The fertile plain," he says, "is now in part occupied by the southern bay [of the Dead Sea], or that portion of the sea lying south of the peninsula; by some convulsion or catastrophe of nature connected with the miraculous destruction of the cities, either the surface of this plain was scooped out, or the bottom of the sea was heaved up, so as to cause the waters to overflow and cover permanently a larger tract than formerly. In either case it would follow that the sources of bitumen would in like manner be covered by the sea." The probable agencies employed in the miraculous destruction of these cities are likewise referred to by Dr. Robinson:—"The country, we know, is subject to earthquakes, and exhibits also frequent traces of volcanic action. In the whole region around the lake of Tiberias these traces are decided; and at a short distance north-west of Safed we afterwards came upon the crater of an extinguished volcano. It would have been no uncommon effect of either of these causes to upheave the bottom of the ancient lake, and thus produce the phenomenon in question. But the historical account of the destruction of the cities implies also the agency of fire—'The Lord rained upon Sodom

and Gomorrah brimstone and fire from the Lord out of heaven;' and Abraham, too, 'beheld, and lo, the smoke of the country went up as the smoke of a furnace.' Perhaps both causes were at work—for volcanic action and earthquakes go hand in hand—and the accompanying electric discharges usually cause lightnings to play and thunders to roll. In this way we have all the phenomena which the most literal interpretation of the sacred records can demand. Further, if we may suppose that before this catastrophe the bitumen had become accumulated around the sources, and had perhaps formed strata spreading for some distance upon the plain—that, possibly, these strata in some parts extended under the soil, and might thus easily approach the vicinity of the cities—if, indeed, we might suppose all this, then the kindling of such a mass of combustible materials, through volcanic action or by lightning from heaven, would cause a conflagration sufficient not only to engulf the cities, but also to destroy the surface of the plain, so that 'the smoke of the country would go up as the smoke of a furnace,' and the sea rushing in would convert it into a tract of waters. The supposition of such an accumulation of bitumen may at first appear extravagant; but the hypothesis requires nothing more (and even less) than nature herself presents to our view in the wonderful lake or tract of bitumen found on the island of Trinidad. The subsequent barrenness of the remaining portion of the plain is readily accounted for by the presence of such masses of fossil salt, which perhaps were brought to light only at the same time. The preceding views and suggestions are not the result of mere conjecture, but rest upon a basis of facts and analogies supplied by the researches of science. Nor do they depend simply upon my own unaided authority, which would be nothing in a matter of this kind." Dr. Robinson communicated his views to the distinguished Leopold von Buch, "whose researches have been particularly directed to the phenomena" of volcanoes. L. von Buch corroborates the views quoted above. Referring to the asphaltum of the Dead Sea, he says—"It is probably nothing more than bitumen consolidated at the bottom of the lake, which, not being able to flow off, forms by consequence a layer at the bottom, as in the island of Trinidad. It is quite probable that this accumulation may have taken place in remote times, as well as in our day; and if some volcanic action, an elevation of the soil, or shocks of earthquakes, have brought to light masses of asphaltum analogous to that which you describe, we can very well conceive of the conflagration of entire cities by the inflammation of materials so eminently combustible."

2. *The Slime Pits of the Vale of Siddim.*—The various forms in which pitch occurs have already been noticed. The slime pits of Siddim have disappeared, though the same method of obtaining it, as was anciently employed in the neighbourhood of the Dead Sea, has been had recourse to in a locality far to the north. At Hasbeiya, to the west of Mount Hermon, such pits are still seen. "Let me point your eyes to those white hills on the north-east," says Dr. Thomson. "Where they terminate in this direction are the famous Bitumen Wells. They are about three miles west of Hasbeiya. The rock is a chalky marl, exceedingly white. The shaft actually worked when I was last there was one hundred and sixteen feet deep to the bitumen. The thickness of the stratum varies. In some shafts it is fifteen feet, and in others it is not five. So, also, the quality varies. In some places it is extremely pure, like real jet, or black amber; in others, only a few feet distant, it is unctuous, earthy, and of the colour of iron rust. The people that work the mine believe that new bitumen is constantly forming; and the fact that the entire area through which these *wells* are and have been sunk from remote ages does not exceed an acre in extent, strongly confirms the theory. The whole space must have been dug over many times, and yet they find it as abundant and perfect as ever. It is probable, therefore, that this mineral exists in vast quantities in the marly mountain north of the wells, and that it exudes slowly, in the form of semi-liquid petroleum, into this peculiar receptacle, and there in time hardens into bitumen. It is difficult to account for the continued supply on any other supposition. The Arabs on the shore of the Dead Sea have a similar theory to account for the appearance of bitumen there. They say that it forms on the rocks in the depths of the sea, and by earthquakes or other submarine concussions is broken off in large masses, and rises to the surface. A few miles north of these wells of Hasbeiya a new mine has been opened, not far from a village called Yahmur. The shaft is sunk through hard rock, and the bitumen is found at different depths. It is actually semi-fluid, and exudes into the shaft from crevices in the rock strata. . . . . Our translation has it '*slime pits*,' but the Hebrew is the same that our Arab friends now employ for these wells—'*biaret hummar*.'" "The slime pits of which the vale of Siddim was full, into which the kings of Sodom and Gomorrah fell, were no other than bituminous wells or pits, as is indicated by the accordance of the Hebrew word *hemar* with the Arabic *hummar* (bitumen). Were more bitumen wanted here than is at present cast up by the [Dead] Sea, it

could probably be found by digging near its shores. One can scarcely refer to its abundance in these localities without thinking of the readiness of combustible material for the destruction of the abandoned cities of the plain, which God, 'turning into ashes,' condemned with an overthrow, making them an ensample unto those that afterwards should live ungodly, 2 Peter ii. 6." (*Dr. Wilson.*)

3. *The Dead Sea.*—Great abundance of material has been provided by recent travellers for forming a correct estimate of the position and general characteristics of the Dead Sea. Lynch, Symonds, Van de Velde, De Saulcy, Wilson, Stanley, Bonar, and Dr. Robinson, have spent much labour and research, both on the historical notices of it by older writers, and on the physical features of the sea and its vicinity. Various names are given to it. The "Dead Sea" is the most common of these, though it does not occur in the Scriptures. "Dead Sea"—*Mare Mortuum*—is the name used by Jerome. Josephus calls it "Lake Asphaltites," from the mineral pitch which at certain seasons—in autumn chiefly—is found floating on its surface. Its modern name is *Bahr Lut*, the "Sea of Lot," and *Birket Lut*, the "Pool of Lot." It is variously named in Scripture. The first time it is mentioned is in chapter xiv. 3, where it is identified with the Vale of Siddim—"All these were joined together in the vale of Siddim, which is the salt sea." In Deuteronomy iv. 49, another name is used, by which it is associated with the desert tract to the south—"All the plain on this side Jordan eastward, even unto the sea of the plain"—literally, the "Sea of Arabah." In Ezekiel xlvii. 18, the prophet, looking at it from the west, calls it "the east sea," an expression used by the prophet Joel also—"I will drive him into a land barren and desolate, with his face towards the east sea" (ii. 20). In the vision of "the day of the Lord," as seen by Zechariah, when the great events of that day are described, he says—"Living waters shall go out from Jerusalem, half of them towards the former" (or eastern) "sea" (xiv. 8). The reference made to it by the old Jewish historian is in connection with his description of the course of the Jordan. "It runs," he says, "away into a desert, and then makes its exit into the Lake Asphaltites."

The physical features of the locality in which the Dead Sea is situated have, from earliest times, arrested the attention of travellers. Everything about them is boldly marked. The look of desolation all around, the wild grandeur of the neighbouring highlands, the sterility of the whole district, the absence of life from the waters of the sea, and the deep solitude which seems to brood over it all, have their

natural effects on the mind greatly strengthened by the associations which the Christian traveller carries with him to that plain, in which the judgments of a righteous God have been so signally manifested.

If the reader will turn to any good map of Palestine, he will notice that the mountain system bordering on the Jordan, follows that river from Lebanon on the north, in two great chains, to its confluence with the Dead Sea on the south. These two chains stretch along the eastern and western shores of the sea, and pass thence, in a direction south by west to the Red Sea itself. They form two great natural walls between which the Jordan flows. Their openings to the east, by which the tributaries of the Jordan reach its channel, are generally in a direction north by east, while to the west they, for the most part, run north by west. Between the mountain ranges now mentioned, a deep fissure runs from the western outliers of Hermon, right on to the Red Sea. The volcanic forces which have produced this deep ravine, have, at the same time, given the direction and configuration to the mountain chains which accompany it. In the deepest part of this fissure lies the Dead Sea. At other points where it is partially widened and depressed in its course, the Waters of Merom and the Sea of Galilee have been formed. "Lying in this deep caldron, encompassed by bare white cliffs, and exposed during the long Syrian summer to the unclouded beams of a burning sun, nothing could be expected on the shores of the Dead Sea but sterility and death-like solitude, and nothing else does the traveller find, save where, here and there, a brackish fountain, or mountain streamlet, creates a little thicket of willow, tamarisk, and oleander."

Lieutenant Lynch, of the American expedition, gives the position of the Dead Sea as in latitude 31° 46′ 20″ at its north end, and latitude 31° 5′ 20″ at its south end. Its length is about forty geographical miles, its breadth nine to nine and a half. At one point, however, it is not more than five miles broad. Its level is not less than 1312·2 feet below that of the Mediterranean. At some places its depth reaches 218 fathoms, varying from this to a depth of not more than three fathoms. The cliffs on its west side rise to the height of 1500 feet, and those on the east side to about 3000 feet above the water level.

The Dead Sea may be regarded as formed of two parts—the northern, which is the deepest, and the southern, or shallow part, believed to occupy a chief portion of what once was the vale of Siddim. The two divisions are united by a narrow strait, on the east of which is a deep indentation of land connected with the peninsula El-Lisân, or

tongue, which like a steep ridge stretches into the northern division of the sea. Irby and Mangles have minutely described this promontory or tongue. They passed round its whole coast, and mention it as projecting forward into the sea, in a direction nearly from south to north; "that is to say," they add, "such is the relative bearing of its extremities—for between them there is a considerable concavity in the line of shore, where the salt water stagnates and evaporates. The promontory is not entirely of high land; a steep white ridge runs, like a spine, down the centre, presenting steep sloping sides, seamed and furrowed into deep hollows by the rains, and terminating at the summit in sharp triangular points, standing up like rows of tents ranged one above another; the whole is of a substance apparently partaking of the nature of soft and broken chalk and slate, and is wholly unproductive of vegetation. The height of the ridge varies from ten to thirty feet, becoming gradually lower towards its northern extremity. At its foot, all round, is a considerable margin of sand, which varies in length and breadth according to the season, being much narrower in summer than it is in winter, when, in rough weather, at least, it is probable that the waves almost wash the base of the cliff. At the northmost point of the cape some rotten branches are standing up, so encrusted with salt deposited upon them by the spray, or the evaporation, that they have the appearance of straight branches of fine white coral. The total length of this promontory, or horn of the bay, may be about four miles, computed from the fact, that we employed an hour and twelve minutes in riding along it at a walking pace. Following the line of coast round the angle, the same cliff presents an opposite face of similar appearance and equal height, running two miles in a direction south-west by south. Here we first collected lumps of nitre and fine sulphur, from the size of a nutmeg to that of a small hen's egg; it was evident from their situation that they must have been brought down by the rain, and that their great deposit must be sought for in the cliff. 'The whole land thereof is brimstone and salt'" (Deut. xxix. 23).

Dr. Anderson, who was attached to the American expedition under Lieutenant Lynch, has drawn up a report on the geological character of the shores of the Dead Sea. The structure of the hills, on the immediate west, is similar to that of the hills of Judah, which are formed of masses of limestone. On the shores of the sea the limestone varies in colour, from white to grey, yellow, and even a dull red. At the foot of these hills, and where the cliffs reach almost to the water's edge, salt marshes abound, covered with a

white sulphurous crust, on which the pieces of sulphur referred to by Irby and Mangles are met with. The same travellers characterize the corresponding marshes in the El-Lisân as treacherous and deep, and only glazed over with a thin crust, not unlike the sediment of mud which the Nile leaves on some parts of its shores.

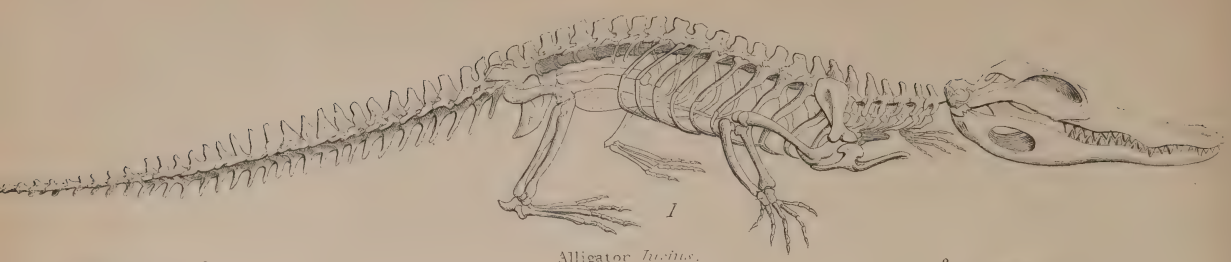
Passing from the western shore, and looking at the tract which stretches to the south of the Dead Sea, we meet the desert region of El-Arabah. "We were exactly," says Dr. Wilson, "seven hours in crossing the Arabah. Cutting it diagonally, we did not find it so level as we expected; and, generally speaking, it is as barren as the desert itself. It has commonly a very hard stony bottom. Patches of softer material, but of sand with very little soil in it, here and there occur, especially where there are depressions in the surface. Many boulders and rounded stones of red and white granite, porphyry, basalt, sandstone, and lime, such as are found in beds of rivers running between mountains of different formations, are in many parts scattered over the surface. On the eastern sides there are beds of alluvial gravel torn up by torrents." The marshes of the Ghôr occupy considerable tracts to the immediate south end of the sea, and to the south-east the highlands exhibit the sandstones and limestones of the Edom range, of which they are a continuation. Passing northward along the eastern shore, you meet the predominating limestones, which are well displayed in the ravine through which the Kerak flows in its way to the sea at the south-eastern extremity of El-Lisân. Farther north still, great masses of limestone are seen resting on thick deposits of the characteristic sandstones. Not far from the north-east end are the hot springs mentioned by Josephus in his notice of the loathsome disease of Herod the Great:—"He also sent for physicians, and did not refuse to follow what they had prescribed for his assistance; and went beyond the river Jordan and bathed himself in the baths that were at Callirhoë, which, besides their other virtues, were also fit to drink; which water runs into the lake called Asphaltites." Callirhoë is the En-eglaim, or "well of the two calves," mentioned in Ezekiel xlvii. 10, where it is named along with En-gedi—"the well or fountain of the kid"—which lies on the opposite shore, to the south-west. The reference occurs in a passage, which if taken literally, will imply, in order to the fulfilment of the prophecy, geological changes, as striking as any that could be associated with the depression and flooding of that part of the vale of Siddim now covered by water. In pleading for the literal fulfilment of such a prophecy, there may be some rest found in the fact

of past interferences, on God's part, with the physical features of the very regions described. But another river of life than the Jordan, and another sea of death (*Mare Mortuum*) than the Dead Sea, are pointed to here. "These waters issue out toward the east country, and go down into the desert, and go into the sea; which being brought forth into the sea, the waters shall be healed. And it shall come to pass, that every thing that liveth, which moveth, whithersoever the rivers shall come, shall live; and there shall be a very great multitude of fish, because these waters shall come thither: for they shall be healed; and every thing shall live whither the river cometh. And it shall come to pass, that the fishers shall stand upon it, from En-gedi even unto En-eglaim; they shall be a place to spread forth nets: their fish shall be according to their kinds, as the fish of the great sea, exceeding many" (Ezek. xlvii. 8–10). The verse which follows, whether regarded from the physical or the purely spiritual point of view, is strikingly suggestive. The traces of the judgments of God against the wicked—the evidences of his great indignation against the ungodly—are never to be blotted out. The expression En-gedi (*Ain Jidy*) to En-eglaim (*Callirhoe*), brings the northern part of the sea under notice, as being healed. But the waters of the southern division which form the strait lying upon El-Lisân, and all that covers the vale of Siddim are to continue under the curse. "The miry places thereof, and the marshes thereof shall not be healed; they shall be given to salt."

The fissure to which reference has been made, as stretching from the western slopes of Hermon, on the one hand, and the eastern outlines of northern Lebanon, on the other, in a south direction to the Red Sea, has given rise to the notion that, originally, the Jordan had flowed down the whole ravine, and watered and made fertile the now sterile Arabah, and had emptied its waters into the Gulf of Akabah, near the spot which afterwards formed the site of Ezion-geber, at the point of the eastern horn of the Red Sea. This notion was generally held until a more accurate survey of the region between the Dead Sea and the Gulf of Akabah showed that the streams lying to the south of the Dead Sea flow in a northern direction into that sea itself—thus indicating a condition in the level of the region entirely opposed to the theory that the Jordan once traversed the whole of it. There is, indeed, no reason to doubt that the Dead Sea has in all time been the basin into which the Jordan ran, and in which it was lost.

It has, however, been alleged that the volcanic agencies brought into play "when the Lord rained upon Sodom and upon Gomorrah brim-

SKELETONS OF REPTILES &c

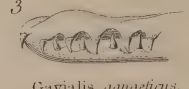


1

Alligator *lucius*.

2

Crocodilus *vulgaris*.



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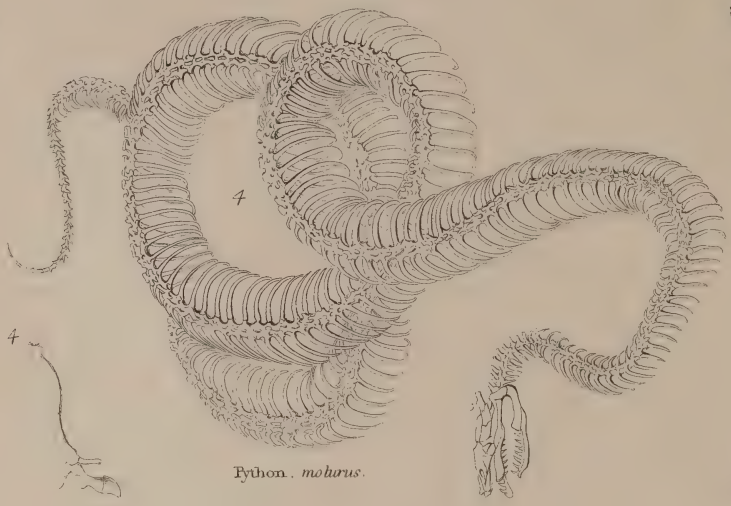
Gavialis *gangeticus*.



4

Python. *molurus*.

5

Naja.

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Tropsoplus *hurissus*.

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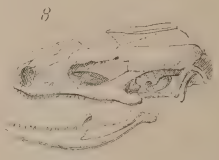
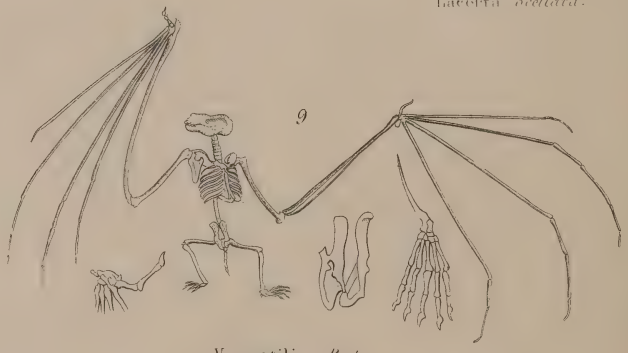
Scincus *officinalis*.



8

Lacerta *ocellata*.



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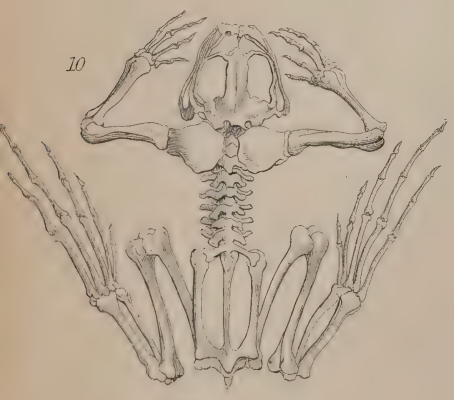
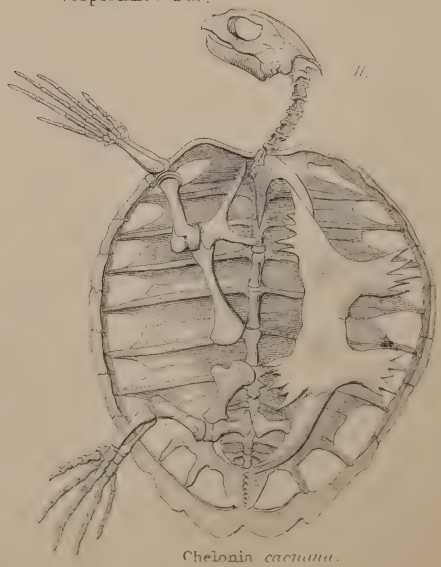
Vespertilio. *Bat*.



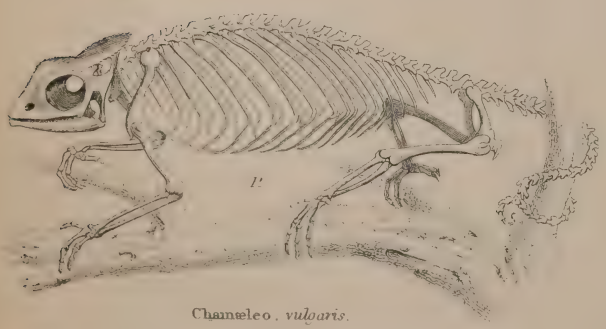
10

Rana *temporaria*



11

Chelonia *caouana*.



12

Chamæleo. *vulgaris*.

UNCLEAN CREEPING THINGS.—Lev. v. 2.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON

stone and fire from the Lord out of heaven" (ver. 24), were sufficient to account for the great elevation and depression—the latter of which is seen in the site of the Dead Sea, and the former in the Arabah—which mark the region. This would have implied an extension of the effects of the agency far beyond the area, which is expressly limited in Scripture. It would be held to account for the depression of the Sea of Galilee on the north, which is 328·98 feet below the level of the Mediterranean, and for the elevation of the district between the Dead Sea and Akabah. But the words of Scripture are—"He overthrew those cities, and all the plain, and all the inhabitants of the cities, and that which grew upon the ground." Forces necessary to give the region south of the Dead Sea its present elevation would have destroyed the whole population of the localities on the east of the sea, and Abraham himself would not have been safe on the heights around Hebron on the west. But instead of being in danger, he looked quietly on the dread scene below—"And Abraham gat up early in the morning to the place where he stood before the Lord: And he looked toward Sodom and Gomorrah, and toward all the land of the plain, and beheld, and, lo, the smoke of the country went up as the smoke of a furnace" (ver. 27, 28). The incident connected with the preservation of Lot sets this question at rest. Had such tremendous and wide-spread forces been at work, Zoar must have been, from its proximity to Sodom especially, involved in the terrible ruin. But it was not. "Behold now," said Lot, "this city is near to flee unto, and it is a little one: Oh, let me escape thither (is it not a little one?), and my soul shall live." "Striking," says Dr. Wilson, "as must have been the phenomena which occurred during the storm of fire and brimstone, and the eruptions and submergence which may have been their cause or accompaniments, they certainly fall short of the awful demands of the theory [referred to above]. The fact undoubtedly is, that the Wádí Arabah and its continuation, the valley of the Jordan, whatever partial changes they may have undergone in our own Adamic era, together form the most wonderful crevasse in the whole world—a fissure made by volcanic and basalt eruptions long before the race of man appeared on the globe." The relation of the volcanic rocks to the strata through which they have been protruded, indicates that the forces have been active in periods represented by the tertiary series of rocks. All recent travellers to Palestine agree in bearing testimony to the distinctly marked volcanic features of the Dead Sea. De Saulcy refers to the "long streaks of volcanic ejections visible everywhere on the eastern

sides of the hills," and of "the ground resounding under the horses' feet, indications that [in such places] it is hollow beneath a very thin surface." He points out a feature which has not had the attention bestowed upon it which it deserves, but which is suggestive of the action, it may be in comparatively recent times, of forces other than those which are appealed to as the explanation of the elevations and depressions seen in the Jordan valley. Passing along the coast to the south from Ain Jidy (Engedi), he noticed on all the grey hillocks long, reddish, oblong stains, always taking the same inclination, and consisting of calcined fragments of flint. "All these streaks were evidently converging towards a common centre; and the farther they receded from that centre, the larger were the fragments; and, contrariwise, the nearer our route approached the centre, the fragments diminished in proportion. With a little reflection this apparent phenomenon is easily explained, if we consider the regular disposition and nature of the veins. Any one who has witnessed the operation of springing a mine, and noticed the arrangement of the displaced stones after the explosion, will be immediately struck by the coincidence of the same effect on the rocks we are now considering. The larger fragments, detached from a superior mass, and operated upon by a greater force, are projected to the greater distance; the smaller ones fall nearer the centre. The converging tendency of each axis of these disjointed fragments begins necessarily at the point from whence they have been propelled. In the present case, the nature of the dislocations, characterized by the action of intense fire, can allow but the one hypothesis, that they have been ejected from a crater. But where was this crater situated? Of course, at the point where every converging axis terminated in a common centre." The fragments are invariably of flint, and have been cast out by volcanic forces from the veins of this mineral, which are seen traversing the limestones of the region. All this indicates agencies like those described by Humboldt, in connection with the first formation of *Jokmali*, near the Caspian Sea. "On the 27th of November, 1827," he says, "flames blazed up to an extraordinary height for a space of three hours. Near the village of Backlichi, west of Baku, the column of flame rose so high that it could be seen at a distance of twenty-four miles. Enormous fragments of rock, torn doubtless from great depths, were hurled to a distance around."

When Abraham looked from Mamre down towards the five cities, "he beheld, and, lo, the smoke of the country went up as the smoke of a furnace" (ver. 28). Dr. Robinson picked up pieces of sulphur and

small lumps of nitre near the rock-salt eminence, Usdum. "All these circumstances," he adds, "testify to the volcanic nature of the whole region; and this is also confirmed by the warm fountains of Ain Jidy and el-Feshkhah on the west, and the hot sulphur springs of the ancient Callirhoë on the eastern coast. Three weeks before, one of our friends had picked up a large piece of pumice-stone on a small knoll near the mouth of the Jordan." Dr. Stanley's graphic sketches of the shores of the Sea of the Plain all give prominence to this feature. Referring to Usdum, he says—"If the salt mountain at the southern extremity could be conceived to have been thrown up within historical times, there is nothing impossible in the supposition that this eruption may have accompanied the catastrophe of Sodom, and have borne its part in the consequences expressly ascribed to that event." "This," he adds, "is confirmed by the mention of salt in connection with Lot's wife (ver. 26), and of the sterility following 'on all which grew upon the ground.'"

The extreme saltness of the water of the Dead Sea has been frequently referred to. In this respect, however, it is surpassed by a small lake on the steppes, east of the Volga, and by Lake Urumiyah, noticed above. The varying degree of the saltness of water may be stated thus:—Least salt—rain-water; most salt—Lakes Elton and Urumiyah. Then succeed the waters of the Dead Sea as next to these lakes. Next to the Dead Sea for saltness is the Caspian, then the Atlantic, then the Mediterranean and the Baltic. The analysis of the waters of the Dead Sea yields this result:—

Chloride of magnesium,	145·8971
Chloride of calcium,	31·0746
Chloride of sodium,	78·5537
Chloride of potassium,	6·5860
Bromide of potassium,	1·3741
Sulphate of lime,	0·7012
	264·1867
Water,	735·8133
	1000·0000

From the earliest times most exaggerated views have been current regarding the phenomena alleged to have been seen on the shores and in the waters of the sea. But these have all been corrected by recent explorations. The ruins of the wicked cities are no more seen lying

under the deep dark waters. The thin mists on the sea have ceased to be regarded as the smoke of the destroyed cities, "going up for ever and ever;" the neighbouring streams do not now run "burning pitch" (Isa. xxxiv. 9, 10). Birds do not now drop dead when they attempt to wing their way across it. "Two birds like gulls," says Dr. Bonar, when describing his "swim of twenty minutes" in its waters, "are flying over my head all the time." And while the higher forms of life cannot subsist in this sea, yet the microscopic researches of Ehrenberg show that *all* life is not excluded from it. The wife of Lot is no longer seen stretching out her hands, and giving warning to those who are not willing to hearken to the word of the Spirit of God—"Remember." True, "the pillar of salt may have vanished; but the salt mountains of Usdum shall still say, Remember Lot's wife, and the marshes of Moab shall still cry, Remember Sodom." Even Lieutenant Lynch half hoped to find what we have no title to look for. "Soon after," he says, "to our astonishment, we saw on the eastern side of Usdum, one-third the distance from its north extremity, a lofty round pillar, standing apparently detached from the general mass, at the base of a deep, narrow, and abrupt chasm. We found the pillar to be of common salt, capped with carbonate of lime, cylindrical in front, and pyramidal behind. The upper or rounded part is about forty feet high, resting on a kind of oval pedestal, from forty to sixty feet above the level of the sea. It slightly decreases in size upwards, crumbles at the top, and is one entire mass of crystallization. A prop or buttress connects it with the mountains behind, and the whole is covered with a debris of a light stone colour. Its peculiar shape is doubtless attributable to the action of the winter rains." The last sentence destroys the rising hope of the reader that he was to have the existence of the pillar proved on other and more trustworthy grounds than the noted one of Josephus—"She was changed into a pillar of salt; for I have seen it, and it remains at this day!" The whole narrative goes against the likelihood of there being preserved to us any other illustration of verse 26 than the remains of the material which might become the means of the judgment—the salt encrustation; and there is abundance of this. But while this is the case, it is not in keeping with what the narrative of this transaction requires to attempt as many do, to make out, that as salt is a symbol of lastingness, a pillar of salt, as here, is nothing more than a perpetual monument of the danger of "looking back!"

"That warning still and deep,
At which high spirits of old would start."

If the air of mystery no longer hangs over the Dead Sea, and if superstition no longer lingers around the extravagant reports

"Fetch'd from that lake where Sodom erst did sink,"

the trustworthy reports of travellers are more interesting than appeals to the imagination by such tales as those mentioned above. "Without," says one who recently visited the Dead Sea, "any reference to what others have said, I can testify to the following facts:—The water is perfectly clear and transparent. The taste is bitter and salt, far beyond that of the ocean. It acts upon the tongue and mouth like alum; smarts in the eye like camphor; produces a burning, pricking sensation; and it stiffens the hair of the head much like pomatum. The water has a much greater specific gravity than the human body, and hence I did not sink lower than to the arms when standing perpendicularly in it. Although there is evidence in the sand and brushwood thrown upon the beach that in great storms there are waves, still there is some foundation for the reports about its immobility. There was a considerable breeze, yet the water lay perfectly calm and motionless. We saw no fish nor living animals in the water, though birds were flying *over* it unharmed. All of us noticed an unnatural gloom, not upon the sea only, but also over the whole plain below Jericho. This, too, is mentioned by ancient historians. It had the appearance of Indian summer in America, and, like a vast funeral pall let down from heaven, it hung heavily over the lifeless bosom of this mysterious lake." In referring to it, Dr. Stanley says—"All along the desert shore, the white crust of salt indicates the cause of sterility. Thus the few living creatures which the Jordan washes down into it are destroyed. Hence arises the unnatural buoyancy and intolerable nausea to taste and touch, which raise to the highest pitch the contrast between its clear, bitter waves, and the soft, fresh, turbid stream of its parent river. Strewn along its desolate margin lie the most striking memorials of this last conflict of life and death: trunks and branches of trees, torn down from the thickets of the river jungle by the violence of the Jordan, thrust out into the sea, and thrown up again by its waves, dead and barren as itself. The dead beach, so unlike the shell-covered shores of the two seas between which it lies, the Sea of Tiberias and the Gulf of Akabah, shelves gradually into the calm waters."

4. *The Origin of Moab and Ammon.*—Even after its overthrow, Sodom cast a dark, deep shadow in upon the sacred narrative. The influence of its great licentiousness and moral impurity on the minds of

the household of Abraham's nephew, has terrible prominence given to it here. The glimpses which we obtain of Lot's character throughout his history, are all in harmony. A partaker with his uncle of the blessings of the covenant, he is named "a righteous man, with a righteous soul" (2 Peter ii. 7); but the incidents of his life show that he was self-seeking, over-confident in his own power to withstand temptation, not over-scrupulous in regard to the companions he made, and, even in trial, timid and vacillating. He had prayed to be permitted to dwell in Zoar; but now, alarmed, as he looked back on the burning region from his place of safety, he cannot trust it as a residence —"And Lot went up out of Zoar, and dwelt in the mountain, and his two daughters with him; for he feared to dwell in Zoar: and he dwelt in a cave, he and his two daughters" (ver. 30). The mountain to which he hastened was noted for its natural caverns. It formed part of the district occupied by the Horites—troglodytes, as we have seen, or dwellers in caves. There the relationship of abominable incest was formed, from which Moab and Ammon sprung—the "children of Lot." His daughters had been corrupted by the practices of the Sodomites, they had been married to wicked and licentious men, they must have known even of their own father's willingness to yield them to the licentious multitude, who demanded the angelic guests; and if to this we add that, as indicated in verse 31, they had taken up the impression that an universal judgment like the flood had come on the earth, their abandoned conduct will cease to be mysterious. Nor were they ashamed of their criminal doings; for when the first-born bare a son, she called him Moab, that is, "the son from the father;" and the younger called her child Ben-Ammi, "the son of my own people." From the former the Moabites were descended, and the Ammonites from the latter.

The mountains of Moab stretched from the eastern bank of the Jordan down the shores of the Dead Sea, and on the east of the Arabah, in the direction of the Red Sea. The Ammonites came to inhabit the highlands lying between the Arnon (Wady el Môjib) on the south, and the Jabbok (Wady Zûrka) on the north. The Moabites dwelt in the region which has for its northern boundary the Arnon, and which reaches beyond the south end of the Dead Sea, having to the east Arabia Petræa. The history of these tribes will be traced under Psalm lxxxiii. 6.

GENESIS XX.

THROUGHOUT the terrible catastrophe in which the cities of the plain were destroyed, Abraham had continued under the Oaks of Mamre, near Hebron (el Khûlil). He now left this place, which had become associated with some of the most deeply interesting events both in his own history, and also in that of the church. He was still a stranger and a sojourner in the land of promise. Leaving Mamre, he "journeyed from thence towards the south country, and dwelled between Kadesh and Shur, and sojourned in Gerar." I have already noticed the position of Kadesh under chapter xiv. 7, as on the southern border of the district later occupied by the tribe of Judah, and in the same place referred to the "desert of Shur or Sdur." At first sight it might seem that the latter is named here as a town. But the probable locality of Gerar, and the association of the name with Kadesh, make it clear that the desert tract is again mentioned. The town of this name was also called Etham, and was situated very near the Red Sea, in the close neighbourhood, if not on the site of the modern Bir Suweis, or "Wells of Suez." Abraham encamped for a season, with his large household and numerous flocks, near a city of the Philistines—Gerar. If a line were drawn in a direction south by east from Gaza (Ghuzzeh) to Beersheba, it would pass through Gerar, lying nearly midway between the two, on the edge of Wady Sheriah, whose verdant banks would supply food in abundance for the wanderer's flocks and herds. Gerar appears to have been the capital of a Philistine state at that time reigned over by Abimelech. This name, which signifies "father-king," corresponded to the title Pharaoh, and was anciently given to the Philistine monarch as Pharaoh was to the Egyptian. As it was with Abraham before in Egypt, so was it now with him in Gerar. Dreading the licentious habits of the people among whom he now sojourned, he again asked Sarah to say that she was his sister. The record of this transaction is peculiarly graphic. It sets before us in a very striking light the weakness of the patriarch the moment he left the ground of faith, and took counsel with his own heart, and it opens up the use which God, in his sovereignty, made of the so-called "religion of nature"

in dealing with the Philistine king. The dream by night, the household affliction, the voice of God to the natural conscience, the discovery of his danger by the Philistine, the restoration of Sarah, and the stern but richly-deserved rebuke of Abraham by the king of Gerar, are all told in simple but most weighty words. Sarah was restored to Abraham, and, as it had been in the case of Egypt, so here—"Abimelech took sheep and oxen, and men-servants, and maid-servants, and gave them unto Abraham, and restored him Sarah his wife" (ver. 14). He was led by two reasons to this speedy restoration and lavish liberality. In the revelation of God to him he had been told that Abraham was a prophet. "Restore the man his wife, for he is a prophet, and he shall pray for thee" (ver. 7). As the friend of God, Abraham was thus not only God's mouth to man, but man's mouth also to God for expressing his wants. The other reason for Abimelech's conduct is stated to have been the affliction which had come upon his household. It were vain to attempt discovering what this was. That it was something relating to the increase of his family is clear from verses 17 and 18. This fact has led some to the belief that the sojourn of Abraham at Gerar must have been much longer than is generally believed—three or four years at the least; for how otherwise, it is asked, could the king of Gerar have known the sterility of his wife? The answer to this is plain. In chapter xvii. 21, when reference is made to Isaac, it is added, "which Sarah shall bear unto thee at this set time in the next year." After this we have the departure to Gerar narrated, as following the destruction of the cities of the plain; and chapter xxi. opens with a statement of the fulfilment of the promise—"The Lord visited Sarah as he had said, and the Lord did unto Sarah as he had spoken" (ver. 1). The time of the sojourn in Gerar on this occasion is thus clear. And all that we can know of the affliction on the Philistine king and his household is, that it was something which turned the eyes of the king on it, as from the hand of God.

GENESIS XXI.

"ABRAHAM was an hundred years old when his son Isaac was born unto him." The child was named Isaac (laughter) from the peculiar joy of his mother. "And Sarah said, God hath made me laugh, so that all that hear me will laugh with me" (ver. 5, 6). At the feast in honour of the weaning of Isaac, his mother saw Ishmael mocking, and demanded that the bondwoman and her son should be sent away from the household. Hagar and her son were ultimately, by the command of God, led away by Abraham, and evidently put on the road to Egypt—Hagar's native country. The bondwoman lost her way in the desert, and wandered, until famine-stricken, in the wilderness of Beersheba. By the direct interference of God, however, she and her child were preserved. Ishmael grew up in strength. "He dwelt in the wilderness, and became an archer, and his mother took him a wife out of the land of Egypt."

Beersheba (the well of the swearing, or of the seven) is mentioned here by anticipation. Later the place was so named to keep in memory the covenant made between Abraham and Abimelech. It lies on the frontier of Palestine towards the south. In recent times the site of Beersheba has been identified by Dr. Robinson. "We now felt," he says, "that the desert was at an end. Descending gradually, we came out at two o'clock upon an open undulating country; the shrubs ceased, or nearly so; green grass was seen along the lesser water-courses, and almost greensward; while the gentle hills, covered in ordinary seasons with grass and rich pastures, were now burnt over with drought. Arabs were pasturing their camels in various parts, but no trace of dwellings was anywhere visible. At a quarter to three o'clock we reached Wady-es-Seba', a wide water-course, or bed of a torrent, running here west-south-west towards Wady-es-Sūny. Upon its northern side, close upon the bank, are two deep wells, still called Bir-es-Seba, the ancient Beersheba. We had entered the borders of Palestine! . . . . . Here, then, is the place where the patriarchs Abraham, Isaac, and Jacob often dwelt! Here Abraham dug perhaps this very well; and journeyed from hence with Isaac to Mount Moriah,

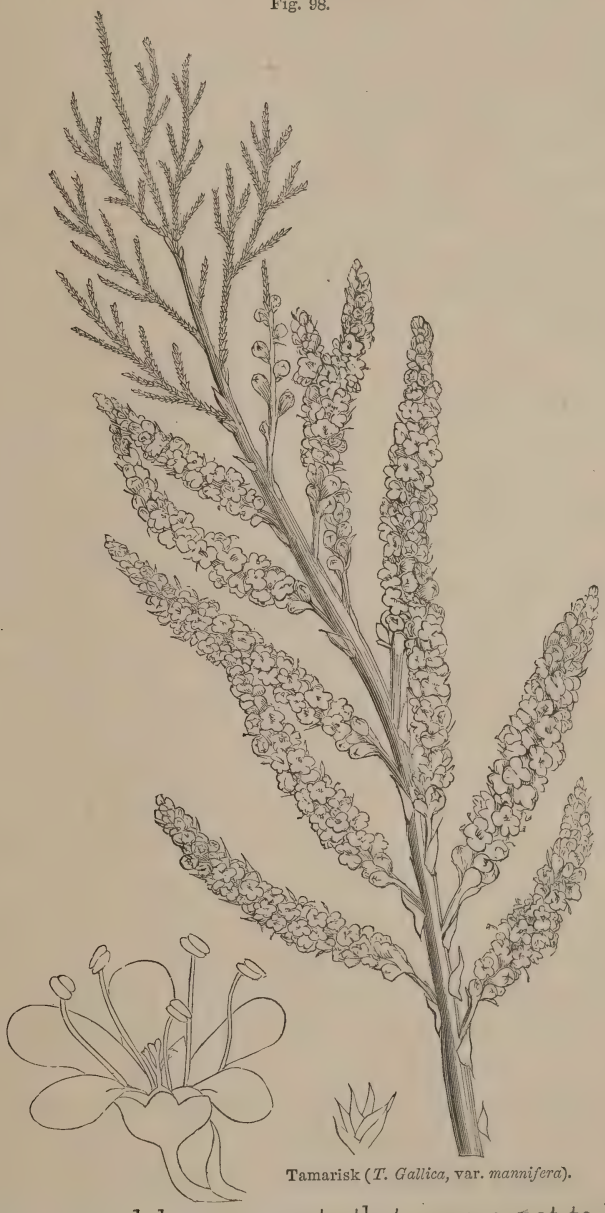
to offer him up there in sacrifice. From this place Jacob fled to Padan-Aram, after acquiring the birthright and blessing belonging to his brother; and here too he sacrificed to the Lord on setting off to meet his son Joseph in Egypt. Here Samuel made his sons judges; and from here Elijah wandered out into the southern desert, and sat down under a shrub of Retem, just as our Arabs sat down under it every day and every night. Here was the border of Palestine Proper, which extended from Dan to Beersheba. Over these swelling hills the flocks of the patriarchs once roved by thousands; where now we found only a few camels, asses, and goats."

Beersheba became, for a season, such a resting-place to Abraham as Hebron had been; and here, we are told, "he planted a grove (*eshel*), and called there on the name of the Lord, the everlasting God." In the margin of the authorized version of the Bible, the word "tree" is given as the more correct rendering of "*eshel*" which in the text is translated grove. Dr. Stanley and others are sure, that the tree planted by Abraham was the *Tamarisk* (*Tamarix Gallica*) of botanists, the *Tarfa-tree* of the Arabs, which yields the gummy exudation known as Manna, the "*Mon*" of the natives. Dr. Bonar ("Desert of Sinai") remarks, "Mr. Stanley says, 'it can hardly be doubted that the tamarisk is intended in Genesis xxi. 33.' We should rather have said, it can hardly be believed!" The tamarisk gives its name to a natural order of plants (*Tamaricaceæ*, the Tamarisk family), which are most frequently met with in the eastern half of the northern hemisphere. The family numbers forty-three species. From the manna-bearing variety of the French tamarisk the so-called Manna of Mount Sinai is obtained. The Indian tamarisk (*T. Indica*) supplies a species of nut-gall, formed by an insect, of value as a dye. The Eastern tamarisk (*T. orientalis*) is the largest and most beautiful of the tribe, and has been found to grow from fifteen to twenty feet high. It is met with in Arabia, Persia, and in India.

What ground is there for identifying the "grove" (*eshel*) here mentioned, with the tamarisk-tree? The chief reason assigned by Kitto, Kalisch, and others, is, that the tamarisk is found in the neighbourhood of Beersheba still! Dr. Royle believes that *eshel* is the same as the Arabic Asul—the eastern tamarisk-tree. And what ground have we for the conclusion, that Abraham planted the "*eshel*," and "there," viz., at Beersheba, "called on the name of the Lord," as he had before done at Bethel and at Hebron? The tree was planted to serve as a lasting witness to the alliance formally entered into between Abraham and

Abimelech. It was thus simply a memorial tree, and not designed to form a deep shade, in which God might be worshipped. A comparison of the other two passages in which the word is used, with the spiritual

Fig. 98.



Tamarisk (*T. Gallica*, var. *mannifera*).

act of Abraham noticed here, suggests that we are not to look for any individual species of tree as the representative of the ēshel planted at Beersheba. When it was planted, Abraham "called there on the name of the Lord (*Jehovah*) the everlasting God (*El olam*)." The tree was

to be a perpetual witness, and the patriarch on his part called on God in his character of a continually faithful God. In 1 Sam. xxii. 6, Saul is represented abiding in Gibeah (the modern *Tuleil el-Fal*) "under a tree (*ēshel*) in Ramah (the modern *er-Ram*), having his spear in his hand, and all his servants were standing about him." The only other passage in which the word occurs is 1 Sam. xxxi. 11–13—"And when the inhabitants of Jabesh-gilead heard of that which the Philistines had done to Saul, all the valiant men arose, and went all night, and took the body of Saul, and the bodies of his sons, from the wall of Beth-shan, and came to Jabesh, and burnt them there. And they took their bones, and buried them under a tree (*ēshel*) at Jabesh, and fasted seven days." There seems no reason to doubt that the tree (*ēshel*) here was a terebinth-tree (*elah*), because when the same subject is mentioned, in 1 Chronicles x. 12, the valiant men are said to have taken "the body of Saul, and the bodies of his sons, and brought them to Jabesh, and buried their bones under the oak (terebinth, *elah*) in Jabesh, and fasted seven days." The inference from these passages is, that the word used here means any species of tree planted as a memorial of some great event. Of this kind were the ēshels at Beersheba, at Ramah, and at Jabesh. The word for "the grove," in which idolatrous worship was practised, has no affinity to this one. "Ye shall destroy their altars, break their images, and cut down their groves (*asherah*)" (Exod. xxxiv. 13). "Thou shalt not plant thee a grove (*asherah*) of any trees near unto the altar of the Lord thy God, which thou shalt make thee. Neither shalt thou set thee up any image, which the Lord thy God hateth" (Deut. xvi. 21–22). The terms used in the Old Testament for "tree" are *etz*—"every tree (*etz*) of the garden" (Gen. ii. 16)—and the Chaldee *eilan*—"I saw and behold a tree (*eilan*) in the midst of the earth" (Dan. iv. 10). The former word is variously rendered "tree," "wood," "timber," "stalks," "staff," "stick," "stock," and even "gallows" as in the nine times in which it is used in Esther. The latter word occurs only six times, and is limited to the Book of Daniel. (See, for "grove," under Micah v. 14.)

After the covenant at Beersheba, Abimelech and his chief captain "returned into the land of the Philistines" (ver. 32). They went from Beersheba to Gerar, while Abraham sojourned at a distance from Gerar, but "in the land of the Philistines, many days" (ver. 34). Among the descendants of Mizraim mention is made in Genesis x. 14 of Philistim or Philistines. They must thus at a very early period have migrated from the land of Mizraim—Egypt. Some believe that

the Philistines were descended from the Hyksos or Shepherd Kings, who reigned so long in Lower Egypt with Memphis for their capital, and who, when expelled by the representatives of the dynasty displaced by them, had taken possession of the district in which we here find them. This theory would, however, demand a complete alteration of the generally received chronolgy of the events of Abraham's life. The Hyksos must have conquered Egypt but a short time before Abraham's visit to it, yet Abimelech is introduced here as dwelling in a fixed kingdom—having for its capital Gerar, and with a thoroughly organized standing army, over which Phicol was captain. The theory of the identity of the Philistines and Hyksos must be given up. But this will not interfere with any hypothesis regarding their claim to be considered a branch of the same great family, who under the name of Hyksos reigned for a season in Lower Egypt.

On turning to the map given at the beginning, it will be seen that the purely so called Cushite branch of the Hamites not only sends a chief line to the shores of the Persian Gulf, the Erythræan Sea of Herodotus, but also pushes an off-shoot into the valley of the Nile, alongside of Mizraim. The bases on which these lines rest have already been indicated. The language, physical features, and religion, associate the Philistines with the Hamites. They were not, however, pure Egyptians—children of Mizraim, but descendants of another son of Ham, Cush. This accounts for their differing from the Canaanites proper, and also from the Egyptians, while they still had much about them which has led them to be associated, now with the one tribe, now with the other. The notice which Herodotus takes of the Phœnicians and of the inhabitants of Syria Palestine, or Syria of the Philistines, is indirectly corroborative of this view, formed on other grounds. "The Phœnicians," he says, "with the Syrians of Palestine, furnished three hundred vessels. . . . . This nation, according to their own account, dwelt evidently upon the Erythræan Sea, but crossing thence, fixed themselves on the sea-coast of Syria, which they still inhabit." Their name Philistines, or strangers, points to a migration like that referred to by Herodotus. Philistia proper reached from Ekron on the north, a town which later lay on the south border of Dan, to the desert of Egypt on the south, and specially embraced the coast line. It contained a confederation of five cities, when at a later period the descendants of Abraham were specially brought in contact with its inhabitants—Ascalon, Ashdod, Ekron, Gaza, and Gath. The part of Philistia lying on the desert, is the region known in Old Testament times as

"the low country or plain." The shores of Canaan, on which the Philistines originally dwelt, were sandy and unfruitful on the sea, but fertile in the highest degree inland. "Palestine, or the 'land of the Philistines,' was the part of Judæa with which the Greeks were first acquainted, as they followed in the track of the Egyptian Pharaohs and Ptolemies, along this narrow strip of Syria, or as their vessels may occasionally have touched at Jaffa. And thus by a process similar, though converse, to that by which the Romans gave the name of Asia and Africa to the two small provinces which they first possessed on these continents, the title 'Philistia,' or 'Palestine,' was transferred from the well known frontier to the unknown interior of the whole country." The Philistines held their country against the Israelites, even till the time of David, by whom they were completely vanquished. The force and energy of their character, their patriotism, and constant readiness to embrace every opportunity of gathering their scattered forces in order to hold, or to regain liberty and national independence, are seen through the whole of their history. Their religious rites carry the mind to the very regions pointed to by Herodotus. They worshipped *Dagon*, the "Fish God," and *Atargatis* or *Derceto*, the "Fish Goddess" —idols having the human body joined to the tail of a fish, the symbols of plenty. Their confederate cities and fertile plain are happily characterized by Dr. Stanley. "They rise," he says, "above the plain on their respective hills; Gaza, Ashdod, and Ekron withdrawn from the coast, Ascalon and Jaffa situated upon it. They are all remarkable for the extreme beauty and profusion of the gardens which surround them —the scarlet blossoms of the pomegranates, the enormous oranges which gild the green foliage of their famous groves. Well might Jaffa, 'the beautiful,' be so called; well might Ascalon be deemed the haunt of the Syrian Venus. Her temple is destroyed, but the Sacred Doves— sacred of immemorial legends on the spot, and celebrated there even as late as Eusebius—still fill with their cooings the luxuriant gardens which grow in the sandy hollow within the ruined walls. These cities, thus situated on the grand route of the invaders of Palestine from north or south, have always played a part in resisting the attacks of besieging armies. The longest siege recorded in history was that conducted for twenty-seven years by Psammetichus against Ashdod. Gaza, protected both by its eminence and by the sandy tract reaching up to the base of the hill on which it stands, provoked the siege which has left so deep a stain on the character of Alexander. In Ascalon was entrenched the hero of the last gleam of history which has thrown its light over the

plains of Philistia. Within the walls and towers still standing, Richard held his court; and the white-faced hill which, seen from their heights, forms so conspicuous an object in the western part of the plain, is the 'Blanche-Garde' of the crusading chroniclers, which witnessed his chief adventures. But the most striking and characteristic feature of Philistia is its immense plain of corn fields, stretching from the edge of the sandy tract right up to the very wall of the hills of Judah, which look down its whole length from north to south. These rich fields must have been the great source at once of the power and the value of Philistia; the cause of its frequent aggressions on Israel, and of the unceasing efforts of Israel to master the territory. It was in fact a 'little Egypt.' As in earlier ages the tribes of Palestine, when pressed by famine went down to the valley of the Nile, so, in later ages, when there was a famine in the hills of Samaria and the plain of Esdraelon, the Shunamite went with her household 'and sojourned in the land of the Philistines seven years.' In that plain of corn, and those walls of rock, lies the junction of Philistine and Israelite history, which is the peculiarity of the tribe of Dan. This region is what the kings of Sidon regarded as 'the root of Dan.' These are the fields of 'standing corn,' with 'vineyards and olives' amongst them, into which the Danite hero sent down the 'three hundred jackals' from the neighbouring hills. In the dark openings here and there seen from far in the face of those blue hills, were the fortresses of Dan, whence Samson 'went down' into the plain. Through these same openings, after the fall of Goliath, the Philistines poured back and fled to the gates of Ekron, and through these the milch-kine, lowing as they went, carried back the ark to the hills of Judah. In the caves which pierce the sides of the limestone cliffs of Lekieh and Deir-Dubbân on the edge of the plain, may probably be found the refuge of Samson in the 'cliff' Etam, before his victory with the jawbone; as afterwards David in the cave of Adullam. It is not often that, on the same scene, events so romantic have been enacted at such an interval of time as the deeds of strength which were wrought in this plain by him, before whose lion ramp the bold Askalonite fell, and those of our own 'Cœur de Lion.'"

GENESIS XXII.

A CONSIDERABLE time must have elapsed between the events mentioned in the preceding chapter, and those recorded in this one. The fact that Isaac was able to bear the wood of the sacrifice (ver. 6), shows that he was no longer a mere child. The narrative of the offering up of Isaac has given rise to much controversy, in which many of the professed friends of revelation have branched theories, as unworthy the events to be explained, as the speculations of those who deny the historical character of the five books of Moses are daring and rash. No explanation can be satisfactory that overlooks the standing of Abraham in relation to the covenant into which God had entered with him. He was in grace admitted to be not only a contracting party, but a representative head and example. God dealt with him as such. He led him into complete self-renunciation, implicit, unquestioning, ready obedience, and willingness to yield up his most deeply cherished objects of affection to the will of God. This must be shown to himself and others, and, above all, its moral and spiritual effects on his own nature must be produced. How was all this to be done? The Lord chose the events recorded here as the fit instrumentality. This view, which is the one clearly indicated in the New Testament, has been too little regarded. His faith was to be most fully tried, and the fruits of ready obedience on his soul as a servant were to be most distinctly marked. Strong faith rests on the promise even when it is not "backed by a providence," but when providences seem to contradict it. The sovereign omnipotence of God is relied upon. He can not only preserve life to the living, he can give it back again to the dead. The command now given to Abraham ushered faith into these, the very highest, forms of its exercise. "By faith Abraham, when he was tried, offered up Isaac; and he that had received the promises offered up his only begotten son, of whom it was said, That in Isaac shall thy seed be called: accounting that God was able to raise him up, even from the dead; from whence also he received him in a figure" (Heb. xi. 17–19). But the bearings of this were to be as distinctly marked on his own nature, as they were to become manifest to the church.

The consciousness of the rich blessing resulting from the "imputed righteousness," is deepened and strengthened by obedience—faith is made perfect, fully realized, by works. "Was not Abraham our father justified by works, when he had offered Isaac his son upon the altar? Seest thou how faith wrought with his works, and by works was faith made perfect? And the scripture was fulfilled which said, Abraham believed God, and it was imputed unto him for righteousness; and he was called the Friend of God" (James ii. 21–23). Theories in explanation which find here only a symbolic representation, in which the patriarch and his son acted consciously a figurative part, or which try to vindicate God in it, by alleging that Abraham mistook his meaning, fall far short of the mind of God in this transaction. It was real, and was thoroughly comprehended by the parties throughout. The opening words are not to be mistaken. "God did tempt—try, prove—Abraham." He put him in circumstances, and demanded from him an act, fitted to put him to the highest proof of his self-renunciation and complete reliance on God. He had been much tried before, but this was to become the culminating point of his spiritual character. Henceforth he was to pass his days in quietness and repose until, "in a good old age, he should be gathered to his fathers." "It is true that God did not seek the slaying of Isaac *in facto*, but only the implicit surrender of the lad, in mind and heart. But if all mental reservation, every refuge for flesh and blood, all mere appearance and self-delusion were to be avoided, this surrender could only be accomplished in the shape in which it was actually required. If it was to be wholly an act of faith left to its own energies, without any other point of support, God could not merely ask a mental surrender, but must have demanded an actual sacrifice. On the part of any other than God, such a *quid pro quo* would have been a dangerous game. Not so on the part of God, who held the issue entirely in his own hand. When Abraham had, in heart and mind, completely and without any reserve, offered up his son, God interposed and prevented the sacrifice *in facto*, which was no longer required for the purpose of trial, and would indeed have completely run counter to it. This interposition on the part of God forms the link of connection between the commandment addressed to Abraham, and the prohibition addressed to his posterity. Implicitly, it already contains the prohibition which is afterwards explicitly laid down in the law. Hence, the antagonism between this command and the prohibition is not separated by a development of six hundred years, but the two are placed side by side in this very history, and reconciled

by the issue of it. 'Now I know,' says the Angel of the Lord, 'that thou fearest God, and hast not withheld thine own son from me.' And again: 'By myself have I sworn, because thou hast done this thing and hast not withheld thine own son, that in blessing I will bless thee, &c., because thou hast obeyed my voice.'" The place of Isaac in this transaction has not had sufficient importance assigned to it. Abraham was the chief agent in it, as the first to whom the blessings of this covenant were announced, and Isaac is introduced as the first of his children to whom the covenant was also to be fruitful of blessing. In a word, Isaac, as well as Abraham, is here taught the lesson of self-renunciation. He is made to see, that one devoted to God must be ready to sacrifice that which may be as dear, or even dearer to him, than his own life. Thus the deep spiritual significance of the whole transaction. Isaac must have been at last equally willing with his father. He was now a lad; Josephus even alleges, without sufficient ground however, that he was now twenty-five years of age. He might have resisted being "bound and laid on the altar" (ver. 9), but he did not. No doubt his will had been influenced as the will of his father was. His life was God's, and at God's command he was willing to render it to him.

The scene of this transaction was "the land of Moriah." The tradition mentioned by Josephus that the place on which Abraham built the altar "was that mountain upon which King David afterwards built [intended to build] the temple," has been generally accepted by Christian writers. The Samaritans hold that Mount Gerizim was the place, and the Mahomedans claim the honour for the Kaaba at Mecca. The Jewish tradition is much more reliable than the Samaritan. Even in David's time, the spot pointed to in it came to be regarded with peculiar interest. It is now contained in the precincts of the mosque of Omar, which stands on the site of the temple of Solomon. Covered by the dome of the Turkish mosque, is the remarkable rock whose preservation, at the time when the site was prepared for the temple, has given rise to much speculation. "It is," says Mr. Catherwood, "irregular in its form, and measures about sixty feet in one direction, and fifty feet in the other. It projects about five feet above the marble pavement, and the pavement of the mosque is about twelve feet above the general level of the inclosure, making this rise seventeen feet above the ground." This rock is part of the natural surface of Mount Moriah, and must have been preserved since the days of Solomon. The explanation of this is given in 2 Chronicles iii. 1,

"Then Solomon began to build the house of the Lord at Jerusalem in Mount Moriah, where the Lord appeared unto David his father, in the place that David had prepared in the thrashing-floor of Ornan the Jebusite." The place which witnessed the binding of Isaac, afterwards became noted in the history of Israel, as the place where the angel appeared to David "by the thrashing-floor of Araunah the Jebusite," and later where the temple of Solomon was built.

Dr. Stanley has put in a claim for Mount Gerizim, and brought his usual learning and topographical skill to support this claim. He quotes the Samaritan tradition as repeated to him on the spot, and holds that it is confirmed by the circumstances of the story. "Abraham was in the land of the Philistines. From the south of the plain he would advance, till on the morning of the third day, in the plain of Sharon, the massive height of Gerizim is visible 'afar off,' and from thence half a day would bring him to its summit. Exactly such a view is to be had in that plain." The name of Moriah, which means "appearance," was given, he alleges, to the temple-hill only after the plague in the time of David was stayed. "Solomon built the house of the Lord at Jerusalem in Mount Moriah, literally "the mount of the appearance." "In the case of the mountain of Abraham's sacrifice, it was probably in the first instance derived from its conspicuous position as 'seen afar off,' and the name was thus applied, not merely to 'one of the mountains,' but to the whole land." The objections to such views are so full of force as to set them aside. "In regard," says Dr. Thomson," to the question about the true site of that most wonderful act of Abraham, I believe it was on Mount Moriah, where the altar of burnt sacrifice was erected by Solomon, and near the spot where the greater sacrifice of an infinitely greater Son was finally offered; and it would take a vast amount of contrary evidence to force me to abandon this idea. Dr. Stanley's geographical argument is more than feeble. It is almost absurd to maintain that Abraham could come on his loaded ass from Beersheba to Nablûs in the time specified. On the third day he arrived early enough to leave the servants 'afar off,' and walk with Isaac bearing the sacrificial wood to the mountain which God had shown him—there build the altar, arrange the wood, bind his son, and stretch forth his hand to slay him; and there was time, too, to take and offer up the ram in Isaac's place. That all this could have been done *at Nablus on the third day* of their journey is incredible. It has always appeared to me, since I first travelled over the country myself, that even Jerusalem was too far off from Beersheba for the tenor of the

narrative, but Nablûs is two days' ride further north! Nor will the suggestion of Dr. Stanley, that Abraham came up through Philistia and then turned into the mountain, bear examination. The supposition is entirely gratuitous, and at variance with all the lines of patriarchal travel through the country, nor does it render the achievement of the journey in three days any more feasible. If Dr. Stanley had travelled over those interminable plains of Philistia and Sharon, as I have, he would not select this route for Abraham on his sad errand. Let us rejoice on being permitted to rest with entire confidence in the correctness of our received tradition, that the priest of the most high God reigned in Jerusalem, and that Abraham made the typical sacrifice of his son on Moriah, and not on Gerizim."

When the fire and the wood were ready, Isaac asked, "but where is the lamb for a burnt-offering?" (ver. 7.) The word used here (*seh*), most frequently means the young of the sheep. "Your lamb (*seh*) shall be without blemish" (Exod. xii. 5). Sometimes, however, it is rightly translated kid, or young goat. "Thus shall it be done . . . . . for a lamb, or a kid," literally for a lamb of the sheep, or for a lamb of the goats (Num. xv. 11). When it is used without the word sheep or goat, it is always, as in this passage, to be rendered lamb. The word most frequently employed for kid, viz., *gedi*, occurs in chapter xxvii. 9, "Fetch me from thence two good kids of the goats."

God provided a substitute for the child of promise. "Abraham lifted up his eyes, and looked, and, behold, behind him a ram caught in a thicket by his horns; and Abraham went and took the ram, and offered him for a burnt-offering in the stead of his son" (ver. 13). The ram (*ayil*), the tup or male sheep, was given instead of the lamb for which Isaac asked. The same providence which, in the incident of the colt needed for our Lord's entry into Jerusalem is seen waiting on him who was Lord of all, is met with here. There is no room for speculation. The ram was real, and it was naturally caught by the horns. A four-horned ram was not, as Dr. Kitto seems to think, necessary in order that it might be securely held! Referring to an (ideal) ram's head figured by him, he says:—"A bunch of horns so variously twisted and 'crankled,' would have involved the animal in fresh difficulties whichever way he turned in attempting to extricate himself." But any shepherd will readily testify, that a ram caught by the horns in a thicket, or in a net, very soon gives in, and that the usual direction taken in any efforts made is retrograde when any one is seen approaching. The head is bent down and the shoulders elevated,

a posture which gives the entangled horns a still stronger hold of the object by which they are held. The ram (*ayil*) is carefully distinguished from the he-goat (*atood*). "Behold I judge between cattle and cattle, between the rams (*ayil*) and the he-goats (*atood*)." A peculiarity in the use of the former word may be noticed here. By a well known figure the idea of strength associated with the ram is applied to the supports of a building. Thus Ezek. xl. 9—"Then measured he the porch of the gate, eight cubits, and *the posts* (*ayil*) thereof."

The complete triumph of Abraham's faith is acknowledged by God. "And the angel of the Lord called unto Abraham out of heaven the second time, and said, By myself have I sworn, saith the Lord; for because thou hast done this thing, and hast not withheld thy son, thine only son; that in blessing I will bless thee, and in multiplying I will multiply thy seed as the stars of the heaven, and as the sand which is upon the sea-shore; and thy seed shall possess the gate of his enemies: and in thy seed shall all the nations of the earth be blessed; because thou hast obeyed my voice" (ver. 15–18). All nature was to become to the patriarch and his descendants continually suggestive of the faithfulness in the covenant. Every night, as the stars shot out in brilliancy, the words would echo again in the depths of Abraham's soul, "I will multiply thy seed as the stars of the heaven." True, that seed was to be afflicted, as he had been warned, but, as in nature the stars became numerically visible with the increasing darkness, would it not be so in the history of his seed? In another sense than the poet imagined the stars "are linked with earth:"—

> "How strangely grand!—the worlds afar
> Are linked to earth by golden ray,
> And every planet, every star,
> Are but a part of unity."

And when Abraham and his household stood where the sand is loosest and most abundant, on the very edge of the shore, the lip (for so the word is literally) on which the water laves the land, the promise would ever come home to them with power—"I will multiply thy seed as the sand which is upon the sea-shore."

GENESIS XXIII.-XXIV.

ABRAHAM and his son returned from Moriah, "the mount of appearance," and "Abraham dwelt in Beersheba many days." But he went back once more to Hebron, the place noted above all others in his experience. Here Sarah died, about B.C. 1859, at the age of one hundred and twenty-seven years—"and Abraham came to mourn for Sarah and to weep for her" (ver. 2). At such a moment, his true relation to the country in which he dwelt was fully felt. In addressing the sons of Heth he said—"I am a stranger and sojourner with you; give me a possession of a burying-place with you, that I may bury my dead out of my sight." The bargain was made, and the price paid. "And the field of Ephron, which was in Machpelah" (portion or lot) "which was before Mamre, the field, and the cave which was therein, and all the trees that were in the field, that were in all the borders round about, were made sure" (ver 17). "Abraham buried Sarah in the cave of the field of Machpelah, which is before Mamre."

In chapter xxiv., the steps taken to procure a wife for Isaac are described. Abraham sends a faithful servant, with a large retinue and goods, to the city of Nahor in Mesopotamia, to the house of Bethuel, Nahor's son. He took ten camels with him and jewels, as earrings and bracelets. Meeting Rebekah, the daughter of Bethuel, and sister of Laban, he is guided to her father's house in Haran, to whom he opens the object of his mission, and Rebekah agrees to return with him to Canaan. Abraham with his household had again left Hebron and returned to the south, to the neighbourhood already associated in his mind with the memory of important events in his family history. At the moment of Rebekah's approach, Isaac was by Beer-Lahai-roi, the place so named from Hagar's experience. He had gone to "meditate in the field at the eventide;" to watch star after star as it shone out on him from the deep blue sky, and to remember the promise—"Thy seed shall be as the stars of the heaven." The union was completed between him and the sister of Laban the Syrian —"and Isaac brought her unto his mother Sarah's tent."

GENESIS XXV.

THIS chapter opens with the list of Abraham's children by Keturah. He lived to see them grow into youthhood, and then gave them their portions and sent them away eastward (ver. 6). They took possession of portions of the wild region which stretches from the south of Palestine towards the Persian Gulf, and became mixed up with the Joktan Arabs, and with certain Cushite tribes by intermarriage; a circumstance which may account for the similarity in name between some of them and those mentioned in the genealogical list in Genesis x. Many attempts have been made to identify the descendants of the sons of Keturah, but in vain. The region which they occupied, and their unsettled social habits, are equally unfavourable to any attempts of this kind. The likelihood is, that the Joktanites (x. 26–29), and the children of Keturah (xxv. 2–4), amalgamated in after times with the Ishmaelites, and that they are all represented by the modern Bedawin, who still roam in wild independence in the desert; and by the numberless tribes of wandering Arabs, who are still to be met with "eastward in the east country" (ver. 6).

The death of Abraham appears to be anticipated in the narrative, and the account of it given, in order that the record should be devoted to the life of Isaac. A comparison of dates shows that Abraham must have lived about fifteen years after the twin sons were born to Isaac. He was about a hundred years old when Isaac was born, and as he died at the age of one hundred and seventy-five, he must have seen seventy-five years of Isaac's life. But we are told (ver. 26) that when Rebekah bore Esau and Jacob, Isaac was threescore years old. Abraham must thus have watched the boyhood of his son's children. The record of his death is given in words of great force and simplicity—"Abraham gave up the ghost, and died in a good old age, an old man, and full of years; and was gathered unto his fathers" (ver. 8). Both Isaac and Ishmael were beside him. They saw the fulfilment of the promise given to their father eighty years before—"Thou shalt go to thy fathers in peace; thou shalt be buried in a good old age" (xv. 15). Had the child of promise and the son of the bondwoman been strangers

until now? "We have no account of their having seen each other before from the day that Ishmael was cast out as a mocker; but whether they had or not, they met at their father's interment. Death brings those together who know not how to associate on any other occasion, and will bring us all together sooner or later." His sons buried him "in the cave of Machpelah, in the field of Ephron the son of Zohar the Hittite, which is before Mamre, the field which Abraham purchased from the sons of Heth." His dust was laid where it would mingle with that of Sarah. And, near the "oaks of Mamre," it waits for the resurrection, by the power of that risen Saviour whose day the son of Terah longed to see, and seeing it by faith was made glad.

No mention is made of the presence of any of the sons of Keturah, to watch their father "come to his grave in a full age, like as a shock of corn cometh in his season" (Job v. 26). They were in no sense children of promise. Isaac was, and so, in a lower sense, was Ishmael. His father had cried to God, "O that Ishmael might live before thee!" And he had been comforted by the return of his prayer. "God said, As for Ishmael, I have heard thee: behold, I have blessed him, and will make him fruitful, and will multiply him exceedingly" (xvii. 18–20). The two sons separated after their father's death. Isaac dwelt by the well Lahai-roi. Ishmael struck off once more into the south-eastern desert. His sons "dwelt from Havilah unto Shur, that is before Egypt."

Ishmael.—Ethnological questions of much interest are connected with "the son of the bondwoman." The offshoots from that branch of the Shemites, of which Abraham may be regarded the representative, were the Israelites, descendants of Abraham through Isaac, the "child of promise;" the Ishmaelites, through Ishmael, the "child of the bondwoman;" the Arabs, descended from the sons of Keturah; and the Moabites and Ammonites, through Abraham's nephew, Lot. These must all be grouped together on the ground of descent, physical features, and language, even though the marks of these relations may now be indistinct. The marks exist, and often present themselves to the students of ethnology in most unlooked-for but interesting circumstances. A sketch of the life of Ishmael is introduced here to serve for reference, and to indicate how much material exists for forming a well-defined idea of his influence on the chosen family, and especially on the testimony for God, as a God of righteousness and grace—a testimony which was specially intrusted to the descendants of Isaac.

Among the riches bestowed upon Abraham on his first visit to Egypt,

mention is made of maid-servants. Hagar was one of them, and had been given as a female slave to Sarah. The Mahommedans regard her as the legitimate wife of Abraham, and write her name Hájir, which, like its Hebrew form, means "flight," and which most likely was given her after she fled from the face of her mistress Sarah. The chief incidents in her life have already been alluded to. She was given as concubine to Abraham. She became over-elated with her condition and despised Sarah, who came "to deal hardly with her." She then fled from Abraham's tents to the wilderness of Shur. Met by the angel of God in her flight, she was sent back to Mamre once more, where "she bare Ishmael to Abram." She is again introduced in the narrative of the patriarch's life at the feast made on the weaning of Isaac, after which, because of the conduct of her son, she is finally sent away from Abraham's household. She again, with her son, takes the direction of the wilderness, where they are taken under the special charge of God. We meet with her name twice after this—when she takes a wife for her son, and when mentioned in chapter xxv. 12, as Ishmael's mother. The incidents of her final separation from Sarah are introduced in the New Testament as having a deep symbolic meaning with reference to the relation of the covenant of Sinai to the true spiritual seed of Abraham. In the reference we see the contrast between the law and the gospel, and the attitude of those who have still the carnal mind to the just who live by faith—"Which things are an allegory: for these are the two covenants; the one from the mount Sinai, which gendereth to bondage, which is Agar. For this Agar is mount Sinai in Arabia, and answereth to Jerusalem which now is, and is in bondage with her children." Isaac was the child of promise; and we, the apostle shows, who have believed in Christ are also "children of promise." Have we the experience which, more or less, results from this character and condition? "He that was born after the flesh persecuted him that was born after the spirit, even so it is now. But what saith the Scripture? Cast out the bondwoman and her son: for the son of the bondwoman shall not be heir with the son of the freewoman. So, then, brethren, we are not children of the bondwoman, but of the free" (Gal. iv).

By his mother, then, Ishmael had Hamite blood in his veins, and while as to descent the nation of the mother did not influence the genealogy, it must have in some degree influenced the disposition of the child. The after habits of Ishmael and of his descendants were much more like those of the Hamitic tribes than of the Shemites. Indeed, this must have been looked for by Hagar even, from the very

words used in describing the character of the son promised to her—"He will be a wild man," literally, "a wild ass of a man." Like the *dsigetai*, or wild ass, he shall roam in the wilderness; wild, rough, independent, he shall refuse to be subject to any, but shall, in himself and in his seed, pass his days in unbridled liberty, "his hand against every man, and every man's hand against him." The description gives the leading outlines of the Bedawin to the life. Like the wild ass, his home is the desert. He loves to wander far from the abodes of civilized men. Nations have leagued against him, but in vain. Revengeful, fierce, lawless, to fight gives him joy. He robs on principle. Everywhere, and in all times, it has been true of him—"He is a wild ass of a man, his hand is against every man, and every man's hand against him."

We have already remarked that the general character of the tribes dwelling in the desert, and occupying the Arabian peninsula, would likely lead to intermarriages, and thus make it very difficult, if not impossible, for the ethnologist to draw well-marked lines of distinction between them. Before the death of Ishmael this had an illustration, which could scarcely have been looked for even by him. Esau married "Bashemath, Ishmael's daughter, the sister of Nebajoth" (xxxvi. 3). But while this was the case, the leading tribe would impress its own likeness on the rest, and the children would follow the family and features of the father rather than of the mother.

By divine appointment a separate standing was allotted to the descendants of both sons of Abraham. Their after history corroborates this at every point. If we look at the posterity of Isaac, what a contrast with other tribes is presented to us! The Jew stands still forth with his well-marked type of countenance and strong individuality, while Assyrian and Babylonian, yea, even Greek and Roman, have been in a great measure lost amidst the commingling of families which has taken place. So with the posterity of Ishmael. The Bedawin of the desert is, in the nineteenth century, unaltered from the Bedawin of the first century. They may have allied with the Edomites, with the Beni-Kedem, or children of the east, and even with the Joktanite Arabs who preceded them in the occupation of a large tract of the Arabian peninsula; but they still retained the original features.

When the promise originally given to Hagar was repeated to Abraham, it was made much more definite—"Behold I have blessed him, and will make him fruitful, and will multiply him exceedingly. Twelve princes shall he beget, and I will make him a great nation" (xvii. 20).

The promise of fruitfulness has been fulfilled to the letter. "Arabia," says Ritter, "is a living fountain of men, the stream of which had poured out far and wide to the East and to the West for thousands of years. Before Mohammed's time the Arab tribes had spread throughout Asia Minor. In the middle ages they are found in India. In the whole of North Africa, as far as Morocco, spread their wandering hordes; and their ships went through the Indian Ocean as far as China; on the Molucca islands and on the coast of Mozambique they had their settlements. In Europe they populated the south of Spain, where they ruled for seven hundred years; and remaining unsubdued themselves, the Arabs ascended more than one hundred thrones beyond their native soil." Religious rites, social habits, and language all supply bases for such views as those of Ritter. Take, for example, the rite of circumcision. Ishmael, we know from Genesis xvii. 25, was circumcised when thirteen years old. "The Ishmaelites," says Origen, "who inhabit Arabia, practise circumcision in the thirteenth year." This is still true, and supplies a link by which remote tribes in Northern Africa may be connected with the original stock. Or take the name generally given to the offspring of Hagar's son. They are Bedawins, or dwellers in the *badia*, or desert, and the Syriac equivalent, *ber beroie*, points us to the inhabitants of Barbary—the Berbers.

The twelve princes sprung from Ishmael, referred to in the promise, were, Nebajoth, Kedar, Abdeel, Mibsam, Mishma, Dumah, Massa, Hadar, Tema, Jetur, Naphish, and Kedemah (xxv. 13–15). "These," it is added, "are their names, by their towns and by their castles." The districts referred to are to be sought in the region into which the twelve princes spread—that, viz., which stretches across the desert from the south of Palestine to the Persian Gulf. In so far as they have been identified, it has been found that they lie in this tract, which has already been noticed. It may be named in a general way "Desert Arabia," to distinguish it from "Happy Arabia," or Yemen, possessed by the earliest Arabs, the Joktanites, who took chiefly to mercantile pursuits, while the Bedawins were wandering shepherds. The first-named son of Ishmael is Nebajoth, or Nebaioth, whose sister's name is specially mentioned as having become Esau's wife. In chapter xxv. she is called Bashemath, and in chapter xxviii. Mahalath. Why this notice? Was there a departure from the usual law of such marriages? Did some of the sister's offspring take to the pursuits of Nabaioth, and did they come to be called by his name? They were afterwards well known as the Nabatæans, who dwelt in parts of Edom. In the

apocryphal book, 1 Maccabees v. 24, 25, we are told that "Judas Maccabæus and his brother Jonathan went over Jordan, and travelled three days' journey in the wilderness, where they met with the Nebathites." In Isaiah lx. 7, mention is made of the "rams of Nebaioth"—an allusion to the pastoral habits of the people.

Kedar was the second prince. From him were sprung the Arabs known to the Romans as the *Cedrei*, and named by Isaiah (xxi. 16) as the "children of Kedar," while their places of habitation are named by him "the villages of Kedar"—collections of tents, no doubt, pitched in spots favourable to their flocks, and which, as their black coverings stood out in the sunlight, supplied the figure for Solomon in the Song i. 5—"I am black but comely, as the tents of Kedar." Jeremiah points to the locality of the Kedarites as on the east, bordering on Arabia Felix. The other references to Kedar imply the thought of distance and of devotedness to idolatry—"Woe is me that I dwell in the tents of Kedar" (Ps. cxx.); "Send unto Kedar, and consider diligently, and see if there be such a thing. Hath a nation changed their gods, which are yet no gods?" (Jer. ii. 10.)

Abdeel, the third son, is only once more mentioned, in the genealogical list given in 1 Chronicles i.

Mibsam, the fourth, and Mishma, the fifth, occur again only in the same list. Dumah and Tema have a place in Isaiah's prophecies (xxi.). Jetur has been held, and with sufficient ground, to have given the name to Ituræa, on the north-western border of Palestine. In after times, and in circumstances which define the locality, the sons of Reuben "made war with the Hagarites, with Jetur, and Naphish, and Nodab" (1 Chron. v. 19). The possessions "in towns and in castles" of the other descendants of Ishmael cannot be identified.

Interest of yet another kind is connected with the race of Ishmael. He is looked to as the progenitor of Mahomet, and is regarded by the Arabs as having been the eldest son and heir of Abraham. Islamism, which at so many points has opposed the testimony held by the descendants of Isaac, has its most devoted adherents among some of the offspring of the son of Hagar. The circumstances connected with his death throw additional light on the promises regarding him. It was in the presence of all his brethren. "These are the years of the life of Ishmael an hundred thirty and seven years; and he gave up the ghost and died; and was gathered unto his people" (xxv. 17).

The incidents recorded in this chapter (xxv.), after the death of Ishmael, present several points for notice. In verse 20 Rebekah is

named as the daughter of Bethuel the Syrian, or "Aramite," of Padan-Aram. (See under Gen. xi. 31.) In verse 22 the enmity between Israel and Edom is already foreshadowed. In her anguish Rebekah went to inquire of the Lord, "as the children struggled together within her," and she received for answer—

> "Two nations are in thy womb,
> And two peoples will be separated from thy bowels;
> And people shall be stronger than people,
> And the elder shall serve the younger."

This is used by Paul as an illustration in his grand argument touching the righteousness of God in election—"And not only this; but when Rebecca also had conceived by one, even by our father Isaac (for the children being not yet born, neither having done any good or evil, that the purpose of God according to election might stand, not of works, but of him that calleth), it was said unto her, The elder shall serve the younger" (Rom. ix. 10–12). So closely related ethnologically were the Israelites and the Edomites! Yet how widely separated were they on the score of covenant blessing and privilege! "Was not Esau Jacob's brother? saith the Lord: yet I loved Jacob, and I hated Esau" (Mal. i. 2, 3).

How did Rebekah "inquire of the Lord?" By what means was the answer given to her? Dr. Kalisch has tried to answer these questions in a way which deserves attention. It is at least ingenious, and is not contradicted by Scripture. "The meaning," he says, "of this phrase can scarcely be doubtful in this place. In most passages in which it occurs it is clearly explained to imply an appeal to the prophet—'When a man went to inquire of God, he spoke thus, Come and let us go to the seer;' for a prophet was originally called a seer (1 Sam. ix. 9; see 2 Kings iii. 11, viii. 8). Now, Abraham had before been designated a prophet (Gen. xx. 7), and had formed the intermediate link between God and man (xx. 17); and nothing is, therefore, more natural than that the Hebrew author intended to intimate that Rebekah inquired of God through Abraham, the prophet, her father-in-law, who still survived, and was no doubt awaiting with intense anxiety the birth of a grandson from Isaac. It is therefore unnecessary to suppose that she addressed herself to the Teraphim (xxxi. 19); and it would be unwarrantable to assume that an oracle through the Urim and Thummim is here, by a strange anachronism, heedlessly introduced."

"The first came out red, all over like an hairy garment; and they

called his name Esau"—that is, "the hairy man"—the appearance of the infant indicating physical strength and animal passion. "After that came his brother out, and his hand took hold on Esau's heel (*akev*); and his name was called Jacob (*Yahakov*)." The Hebrew root is given to indicate that the name "Jacob" was not first given to him when he supplanted Esau in the birthright and the blessing. He bore it from the womb, as having taken "hold of the heel"—an expression which likewise implies supplanting. The name was afterwards associated purely with subtilty, cunning, a power to overreach others. Thus Esau said, "Is not he rightly named Jacob? for he hath supplanted me these two times: he took away my birthright, now he hath taken away my blessing" (xxvii. 36). But if, in the case of Jacob, the mental characteristics are pointed to in the name, we might expect the same thing in the description of Esau. The unnatural redness, the premature and abnormal growth of hair, indicated that gross animal instincts would characterize him in after life.

The simple life of the members of Isaac's household is marked here with much distinctness. They were dwelling at Beer Lahai-roi (ver. 11); now caring for the flocks which pastured in the neighbouring hills, now attending to the cultivated spots around their tents. Esau with his bow pursuing the gazelles in their favourite haunts, Jacob tarrying by the tents, ready, as the nomad still is, for any piece of domestic duty that might be laid on him. Here he is represented as preparing his own meals—"And Jacob sod (made ready for eating) lentiles; and Esau came from the field (from hunting), and he was faint" (ver. 29). Eastern manners change so little that a similar scene may be witnessed still. "There is nothing in this," says Dr. Thomson, "contrary even to present usage in this country. I have often seen rich and luxurious citizens occupied in the same way, and this is still more common among the Arabs of the desert. So also Esau, one would have thought, might easily have sent some of the numerous servants to hunt for venison on the important occasion of receiving the parental blessing; but this too is quite natural in the East. I have had an opportunity to see the great sheikhs of the Anizy, Bini Sukhr, and other tribes of Arabs, and they were in no way distinguished either by dress or manners from their humblest followers. Their garments were even more worn and greasy than those of the servants, and I could not see that they refused to bear their full share of any business that was going on."

Esau's impatient spirit is seen in the very mode in which he asks the pottage. He does not stay to name the food. His eye was affecting

M. Niloticus. Nilotic Ouaran

L. ocellata. Ocellated Green Lizard

S. cordylus. Common Stellion

Cham. vulgaris — *Common Chamæleon.*

LEVIT. XI. 29, 30.

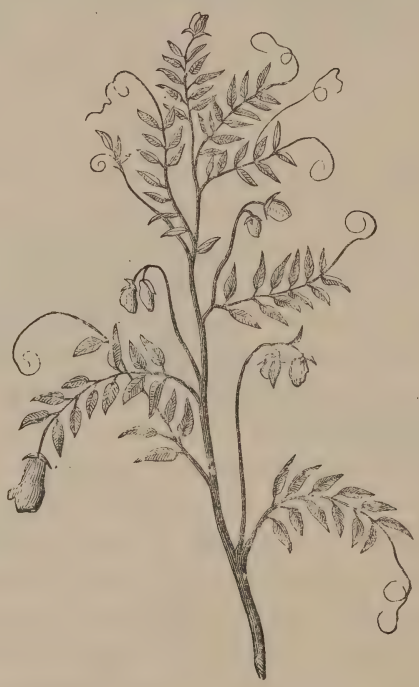
WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON

his appetite. He saw the colour of the mess, and cried, as a child would when under a strong desire, "Feed me, I pray thee, with that same red, red thing." Such is the force of the expression. Jacob's subtilty came at once into action. "I will give thee the pottage for the birthright. Sell it to me." The birthright was linked up with the promise of spiritual blessings; but what were they compared with the material food which already pleased the eye and would gratify the appetite! With all the solemnity of an oath he bartered the birthright for a meal of prepared lentiles. "Esau for one morsel of meat sold his birthright" (Heb. xii. 16). To the idea of redness noticed at his birth, that of the redness of the pottage is joined; and the eldest son of Isaac gets therefrom the name which was specially to distinguish his descendants in history. "His name was called Edom"—literally, "the red one." Thus the origin of the designation of the wild district lying between the Dead Sea and the eastern horn of the Red Sea. Thither Esau ultimately retired, and founded the powerful state of Edom. But as Esau's first name was connected with two features, so was that of Edom; the body of its founder was red, the pottage red for which he bartered his birthright, and the aspect of much of the mountain scenery of Edom is marked by this hue also. Describing one part of it, Dr. Wilson says—"At a single view we had before us the following colours in the strata, which we marked on the spot—tile, flesh, and red rose." In his notice of Seir—"the mount of Esau"—he remarks: "The fundamental stratified rock we found to be the new red or variegated sandstone—a circumstance worthy of notice, because, when associated with the existence of the same rock, with horizontal strata, on the heights of Mount Hor, we had unequivocal evidence of the formation extending to the extraordinary depth of about 1500 feet. Through this rock there burst longitudinal dykes of red granite and porphyry, running nearly parallel with the range of Mount Seir, and so completely silicifying the sandstone in some parts as to give it the appearance of a primitive rock." Irby and Mangles also speak of the "colouring of these mountains," and describe the rocks as "occasionally streaked with red, or shaded off to lilac or purple; sometimes a salmon colour was veined in waved lines and circles, with crimson and even scarlet, so as to resemble exactly the colour of raw meat." The reader may witness the effects of this colouring of the rocks on the atmosphere any day. In passing through a district where the soil is formed from the disintegration of grey or bluish trap rocks, he becomes conscious that the atmosphere has not that warm appearance which characterizes it

in localities where red sandstone prevails, and whose soil bears the colour of the rock from which its basis is formed. The red sandstones of the mountains of Esau would thus lend their hues to the very atmosphere itself, and the whole region would be acknowledged to be "red" —Edom.

The pottage cooked by Jacob was "pottage of lentiles." The colour of the food shows that the red variety of lentil was used. The lentil

Fig. 99.



Lentil (*Ervum lens*).

(*Ervum lens*) is a species of vetch (*Vicia*), used for food on the continent of Europe, and especially in Egypt and Asia Minor. It bears some resemblance to our common vetch or tare (*Vicia sativa*), but much more to some of the wild varieties, and is to be gathered in its wild state in situations like those in our own land—

> "Where purple tassels of the tangling vetch
> With bitter sweet and bryony inweave,
> And the dew fills the silver bindweed's cups."

The botanical place of the lentil, and its use as food, are pointed out and illustrated under 2 Samuel xxiii. 11, which see.

GENESIS XXVI.

AT Beer Lahai-roi, Isaac, while following a life, half pastoral half agricultural, was overtaken, as his father had been, by a famine. Like Abraham, he was about to go down to Egypt for the preservation of his household, "but the Lord appeared unto him, and said, Go not down into Egypt." Isaac halted at Gerar in Philistia. Abimelech and Phicol are introduced as respectively king and chief captain. It is not at all likely that the men were the same as those with whom Abraham had met. Abimelech was the king's title, Phicol that of the commander of his armies. Nearly seventy years must have passed since Abraham visited Gerar.

This famine is noted as the second in patriarchal times. "There was a famine in the land beside the first famine that was in the days of Abraham." This, however, was only one of a series that came on that land afterwards. Indeed the physical features and climatal condition of Palestine, made it then as now peculiarly liable to such visitations. Nor does it detract from the glory of the sovereignty of God in these famines, to appreciate very fully second and natural causes in their immediate production. Drought, excess of rain, or scarcity of dew, are as much his ministers as the lightening flash, the earthquake, or the burning fire which, as in the case of the cities of the plain, he rains down from heaven. So likewise the wireworms and the locusts are as truly his army, as were the hosts of Egypt, Assyria, Babylonia, Greece, and Rome, when, for the sins of Israel, they were once and again sent against them. A like line of remark might be followed with reference to the prevention of famine. Man's agency in the physical, as in the moral world, is followed by fruits corresponding to the kind of effort put forth. In the latter sphere, the absence of moral training results in increased wickedness and more prevalent misery. In the former sphere, neglect of agriculture, the want of industry, and indifference to opportunities of improvement, make men more liable to the terrible scourge of famine, than they would have been, had agricultural industry, commercial enterprise, and sound principles of social economy characterized them. God has ever shown it to be his way to help those,

in such things, who help themselves, and to bless abundantly the faithful use of means.

There may, nevertheless, be circumstances connected with the relations of particular countries to others, with their state of civilization and the like, which might tend greatly to make them liable to the inroads of famine. It was so with Palestine in the days of the patriarchs. Its plains were held by a numerous population. Crowded cities stood as the capitals of petty states. But it had none of those resources by which, especially in modern times, food is readily brought from a distance in the day of famine. Whenever the blight fell upon the crops, or the murrain raged as a deadly plague among their cattle, the people could only suffer and die. The climatal condition of Canaan also, was such as to cause the want of a wide-spread commerce to be at times severely felt. From May till about the end of October, the sky is almost without a cloud. Bright uninterrupted sunshine for nearly six months streams down on the whole land. Towards the end of October occasional clouds gather on the sky, and periodic rains begin to fall. During the months of November, December, January, and February, rain or snow falls. The period between the middle of November on to the second week of January may be named the rainy season; after that the rain or the snow falls in showers to the beginning of April. In April and May heavy morning mists frequently hang over the landscape, which, for the most part, wholly disappear, and give place to the cloudless sky of the summer months. During the rainy season, the pasture and tilled lands are completely saturated; the springs, which indirectly depend on the supply from surface water, as most springs in the neighbourhood of porous rocks do, are filled; the water courses are refreshed, and the trees on their banks hasten to a growth which will cast a shade, and form a shelter for vegetation during the summer, when the water-courses are dry. A failure of supply of moisture at the rainy season results in scanty harvests, an intensity of drought during the summer, the burning up of the pasturage, and the consequent destruction of the best of the flocks and herds. The mild character of the winter helps to prepare yet another agency in the production of suffering. Insect life, every where abundant, has none of the trials from severe and long-continued winters, which destroy so many of the full-formed insects in climates like our own. The egg and the larva develope uninterruptedly into the full-grown form, and, both in the larval and in the perfect state, are ready instruments in keeping down the herbage or in destroying the

crop. All these things should be taken into account when we look at the presence, the end, and influence of the famines mentioned in Scripture. The references to famines are so numerous, and the ends accomplished by them in the moral government of God are so important, that they claim a fuller notice.

Two words are used in the Hebrew Bible which we render by the one word "famine." One of these (*kapan*) is only used twice (Job v. 22, xxx. 3), and seems to point chiefly to the craving, hungering desires of the famished. The other (*rahav*), occurs sixty-two times, and is mainly linked up with the suffering and grief of the famine-stricken. The latter word occurs thrice in another form (Gen. xlii. 19, 33; Ps. xxxvii. 19). In the last passage a thought of much power and beauty has been lost sight of, by our rendering—"the fat of lambs"—in this place. The translators have seen the difficulty, and have set down in the margin—"the preciousness of lambs." But this does not meet the striking contrast, even though, with many, we should hold the reference to be to the melting of the fat on the altar of burnt-offering. There is no authority for rendering the original word "fat." But if we admit the idea which, as Gesenius has shown, should be attached to it, viz., "pasture," one of the objects on which the famine falls, we see how suggestive and appropriate the whole passage is. The upright shall be happy and contented in the time of famine; the wicked shall perish as the burnt up grass does, by whose destruction the famine is brought about:—

> "The Lord knoweth the days of the upright,
> And their inheritance shall be for ever.
> They shall not be ashamed in the evil times;
> And in the days of famine they shall be satisfied.
> But the wicked shall perish,
> And the enemies of the Lord! like the beauty of pastures,
> They shall consume; into smoke shall they consume away."

The notices of the natural means by which famine is produced, gain in significance when we fully acknowledge the sovereignty of God in the use of these, as this is stated in the Bible. Whatever the natural means may be, the Lord claims the recognition of the direct presence of his own hand in all. Thus the solemn warning to nations during such visitations, and thus national responsibility in the acknowledgment of sin, when under the direct stroke of God. Accordingly we find this form of judgment once and again linked up with national sin,

contracted by rulers. "Then there was a famine in the days of David three years, year after year; and David enquired of the Lord. And the Lord answered, It is for Saul, and for his bloody house, because he slew the Gibeonites" (2 Sam. xxi. 1). When David sinned in numbering the people, the prophet Gad went to him and said—"Shall seven years of famine come unto thee in thy land; or wilt thou flee three months before thine enemies, while they pursue thee? or that there be three days' pestilence in thy land. Now advise, and see what answer I shall return to him that sent me" (2 Sam. xxiv. 13). And when the prophet was sent with a message to Zedekiah king of Judah, and his princes, and the residue of Jerusalem, his words were—"Thus saith the Lord, I will send the sword, the famine, and the pestilence among them, till they be consumed from off the land that I gave unto them and to their fathers" (Jer. xxiv. 10). This view of the hand of God in the famine, to which, indeed, all the light we have in the Bible on the providence of God points, is that which, at the dedication of the temple, Solomon, speaking by the Spirit of God, sought to lead Israel as a covenant people:—"If there be in the land famine, if there be pestilence, blasting, mildew, locust, or if there be caterpillar; if their enemy besiege them in the land of their cities; whatsoever plague, whatsoever sickness there be; what prayer and supplication soever be made by any man, or by all thy people Israel, which shall know every man the plague of his own heart, and spread forth his hands toward this house: then hear thou in heaven thy dwelling-place, and forgive, and do, and give to every man according to his ways, whose heart thou knowest (for thou, even thou only, knowest the hearts of all the children of men); that they may fear thee all the days that they live in the land which thou gavest unto their fathers" (1 Kings viii. 37–40). "The famine" is thus to be accepted from the immediate hand of God. Thus its place as a means of discipline to Abraham, to Isaac, and to Jacob. But not less so to believers in New Testament time. Paul saw clearly this aspect of it, and he makes it stand very boldly out in connection with his sublime utterances touching election, and as to the intercession of Christ, as exalted in behalf of those in him, while they are in the heart of trial—"Who shall separate us from the love of Christ? shall tribulation, or distress, or persecution, or famine, or nakedness, or peril, or sword?" (Rom. viii.)

A famine then is brought about in the providence and government of God, either as a divine retribution, for neglect of proper means of prevention, or as a punishment, because of a nation's sins. Innumerable

illustrations, in the history of different countries, might be given of the former; every reference to famine in the Scriptures is suggestive of the latter. The hand of God may, in a great variety of ways, be laid on the staple articles of food. When long-continued drought is marked by the absence of copious dew, the pastures are burnt up, and the cereal crops fail—"The fields yield no meat, the flock is cut off from the fold, and there is no herd in the stall" (Heb. iii. 17). The restraining of rain in its season makes the sowing of the husbandman vain, and the experience described by Amos is realized—"I also have given you cleanness of teeth in all your cities, and want of bread in all your places. And also I have withholden the rain from you" (Amos iv. 6, 7). Or he may permit certain insects, destructive either in their larval or in their fully developed state, to increase to such an extent, as to destroy not corn and green crops only, but fruit-bearing trees, until "joy is withered away" from those who rejoiced in them, and the words of Joel become a bitter experience—"The vine is dried up, and the fig-tree languisheth; the pomegranate-tree, the palm-tree also, and the apple-tree, even all the trees of the field, are withered" (Joel i. 12). This last mode deserves a fuller notice, both because of the frequency of its occurrence, and the varied illustrations which can be given of its influence. (See under Joel i. 4.)

In a country like Egypt, in which the corn crop depends on the annual inundation of the Nile, the failure of this would be sure to result in wide-spread famine. And we have only to imagine the existence of scarcity in the neighbouring countries at the same time with a famine in Egypt, to see how Canaan must have suffered in the time of Jacob, "when the famine was so sore in all lands" (xli. 57). This, however, does not seem to have been the case with the famine, either in the time of Abraham, or with that which happened in the days of Isaac. The former went down to Egypt, and the latter was on his way to it, in order to escape the effects of the scarcity. Indeed, most of the famines mentioned in Holy Writ were partial in their effects, and limited to the countries for the sins of whose inhabitants they had been sent. Thus in Isaac's day, the neighbouring country of Philistia was exempt, as it was later in the days of Elisha, when the Shunammite woman "went with her household, and sojourned in the land of the Philistines seven years, for the Lord had called for a famine on the land of Israel" (2 Kings viii. 1, 2). "In the days when the Judges ruled there was a famine in the land" (Ruth i. 1), which did not reach the country of Moab for Elimelech and Naomi with their sons, went

into the country of Moab and continued there in order to escape the hardships in their own land. The famine also referred to in the history of Elijah (1 Kings xviii. 2) appears to have been confined to Samaria itself, and not to have extended to Judæa proper.

Few studies would turn out more instructive and of fuller interest than to trace in an historical way (1) the Scripture threatenings of this scourge because of certain sins; (2) the fulfilment of the threatenings and its influence on those stricken with famine; (3) the famines which have been recorded among nations not named in Scripture; and (4) the physical features of such lands, their relation to neighbouring countries, and the condition of the industrial arts among the people. The work would be valuable, not only from the point of view of religion, but even from that of political economy. The connection between threatening and fulfilment in one case, has been sketched with terrible fidelity by Josephus in the history of one of which he was a witness, when war lent its horrors to famine, and when pestilence walked abroad at noonday. In his narrative of the incidents of the siege of Jerusalem by Titus he says:—"The madness of the seditious did also increase together with their famine, and both those miseries were every day influenced more and more, for there was no corn which anywhere appeared publicly, but the robbers came running into, and searched men's private houses; and then, if they found any, they tormented them, because they had denied they had any; and if they found none they tormented them worse, because they supposed they had more carefully concealed it. The indication they made use of, whether they had any or not, was taken from the bodies of these miserable wretches, which, if they were in good case, they supposed they were in no want at all of food, but if they were wasted away, they walked off without searching farther; nor did they think it proper to kill such as these, because they saw they would very soon die of themselves for want of food. Many there were indeed who sold what they had for one measure; it was of wheat if they were of the richer sort, but of barley if they were poorer. When these had so done, they shut themselves up in the inmost rooms of their houses, and ate the corn they had gotten; some did it without grinding it, by reason of the extremity of the want they were in, and others baked bread of it, according as necessity and fear dictated to them; a table was nowhere laid for a distinct meal, but they snatched the bread out of the fire, half baked, and ate it very hastily. It was now a miserable case, and a sight that would justly bring tears into our eyes, how men stood as to their food, while the more

powerful had more than enough, and the weaker were lamenting (for want of it). But the famine was too hard for all other passions, and it is destructive to nothing so much as to modesty; for what was otherwise worthy of reverence was in this case despised; insomuch that children pulled the very morsels that their fathers were eating out of their very mouths, and what was still more to be pitied, so did the mothers do as to their infants; and when those that were most dear were perishing under their hands, they were not ashamed to take from them the very last drops that might preserve their lives; and while they ate after this manner, yet were they not concealed in so doing; but the seditious everywhere came upon them immediately, and snatched away from them what they had gotten from others; for when they saw any house shut up, this was to them a signal that the people within had gotten some food; whereupon they broke open the doors, and ran in, and took pieces of what they were eating, almost up out of their very throats, and this by force. The old men, who held their food fast, were beaten; and if the women hid what they had within their hands, their hair was torn for so doing; nor was there any commiseration shown either to the aged or to infants, but they lifted up children from the ground as they hung upon the morsels they had gotten, and shook them down upon the floor; but still were they more barbarously cruel to those that had prevented their coming in, and had actually swallowed down what they were going to seize upon, as if they had been unjustly defrauded of their right."

The visit of Isaac to Philistia is made the occasion of a clear intimation of the future boundary of the land of promise in one direction. The country of the Philistines was to form a portion of it. "Sojourn in this land," said God to him, "and I will be with thee and bless thee; and unto thy seed, I will give all these countries" (ver. 3). This promise was never forgotten. Joshua, when "old and stricken in age," was reminded of it by the Lord himself, who said to him, "There remaineth much land to be possessed. This is the land that yet remaineth: all the borders of the Philistines, and all Geshuri, from Sihor, which is before Egypt, even unto the borders of Ekron northward, which is counted to the Canaanite: five lords of the Philistines; the Gazathites, and the Ashdothites, the Eshkalonites, the Gittites, and the Ekronites; also the Avites" (Josh. xiii. 1–3). Accordingly among the towns allocated to the tribe of Judah, mention is made of "Ekron with her towns and villages; from Ekron even unto the sea, all that lay near Ashdod, with their villages: Ashdod with her towns and

her villages, Gaza with her towns and her villages, unto the river of Egypt, and the great sea, and the border thereof" (Josh. xv. 45–47).

When Isaac had established himself for a season at Gerar, he betook himself to agriculture. God had promised to protect and preserve him and his household, but he knew that this would come to him in the way of the diligent use of means. Accordingly "Isaac sowed in that land, and received in the same year an hundred fold; and the Lord blessed him; and the man waxed great, and went forward, and grew until he became very great" (ver. 12, 13). On this passage Bishop Patrick has the following note:—"This, in itself, is not wonderful; though it was a singular blessing of God, at that time, after there had been a dearth; and, perhaps, the soil was not rich which afforded so large a crop. Varro says, that in Syria, about Gadera, and in Africa, about Byzacium, they reaped a hundred bushels from one. Pliny and Solinus say the same of Byzacium: insomuch that Bochart fancies the metropolis of that rich country, Adrumetum, had its name from thence; it signifying, in the Phœnician language, the region of an hundred fold. Nay, some places of Africa were so rich that they produced two hundred, yea, three hundred fold, as Bochart shows out of several good authors." The natural fertility of the plains of Philistia has already been noted. The Lord so blessed the industry of Isaac, that this fertility was raised to an hundred fold.

The manifest blessing which rested on Isaac provoked the envy of the Philistines, and means were taken to send him out of their country. They filled up the wells which Abraham on his visit had dug, and when Isaac's servants dug others, the herdmen of Gerar strove about them. The two about which the cause of the quarrel specially was, took their names from it; one was called Esek—*Contention*, the other Sitnah—*Hatred*. At a greater distance yet another well was dug, for which they did not contend, and Isaac named it Rehoboth—*Room*. The last, notwithstanding the doubts of Dr. Robinson, is generally believed to have perpetuated its name and indicated its site, in the modern *Wady er-Ruhaibeh*. Dr. Robinson believes he has identified "Esek" and "Sitnah." "These wells are some distance apart; they are circular, and stoned up very neatly with solid masonry, apparently much more ancient than that of the wells at 'Abdeh. The longer one is twelve and a half feet in diameter, and forty-four and a half feet deep to the surface of the water; sixteen feet of which at the bottom is excavated in the solid rock. The other well lies fifty-five rods west-south-west, and is five feet in diameter, and forty-two feet deep."

GENESIS XXVII.

ISAAC was old, his eyes were dim, and believing that death might be near, he resolved to give Esau the covenant blessing before his "day was done." It is not necessary to account for this wish, by making out that "he sought to do it because he had much more sympathy with the direct and manly bearing of Esau, than with the crookedness and subtilty of Jacob." If any ground of preference is specially to be sought, it will be found in chapter xxv. 28—'Isaac loved Esau, because he did eat of his venison.' The motive, however, as the tenor of the blessing shows, had its foundation in the patriarch's views of the privileges of the eldest son. The blessing was to be given in connection with a meal, and Esau is sent into the field, with 'his weapons, his quiver and his bow,' that he might take venison." In this transaction the covenant-idea must be recognized, otherwise, we will not see any meaning in the accompanying circumstances. The root of the word covenant itself points to eating (*berith*, from *barah*, to eat). Thus, 2 Sam. xii. 17—"Neither did he eat (*barah*) bread with them." In pointing out this, I am aware that some derive "covenant" from another root meaning "to cut." If then we attach this idea to the incidents recorded in the opening of this chapter, a beautiful propriety comes to be linked up with the meal of which Isaac desired to partake before blessing his son, and the act comes to be associated with, and to shed light on, several other passages of Scripture. Take, for example, the illustration of this in chapter xxxi.—"Now therefore come thou, let us make a covenant, I and thou; and let it be for a witness between me and thee. And Jacob took a stone, and set it up for a pillar. And Jacob said unto his brethren, Gather stones; and they took stones, and made an heap: and they did eat there upon the heap. And Laban called it Jegar-sahadutha; but Jacob called it Galeed" (ver. 45–47). True, both Laban and Jacob partake of the meal in this case, while Isaac alone eats the food presented. This, however, he does as the representative of the covenant made with Abraham, and as in God's stead to convey the blessing. Thus in chapter xv., Abraham is seen standing aside, and God as acting alone, even as Isaac's son stands by, and waits for

the blessing from his father. "The covenant of salt" points in the same direction. In it the covenanting parties partook of salt together; thus the common eastern expression—"true to his salt." Accordingly when the priest's portion, as one walking amidst covenant blessings and responsibilities, was defined in the days of Moses, great prominence was given to this:—"All the heave-offerings of the holy things, which the children of Israel offer unto the Lord, have I given thee, and thy sons and thy daughters with thee, by a statute for ever: it is a covenant of salt for ever before the Lord unto thee, and to thy seed with thee" (Num. xviii. 19).

Much ingenuity has been employed to meet a supposed difficulty here. How was it possible that Isaac should not at once distinguish between the taste of the flesh of the kid and that of a deer? The explanation has been sought by some in Rebekah's skill as a cook; by others in the assumption that the flesh of the young goat differs little from the flesh of the deer; and by others in the effects of age in destroying the old man's sense of taste. "If Jacob's kids had been roasted whole," says Dr. Kitto, "after being stuffed with raisins, pistachio-nuts, almonds, and husked corn or rice, the result would have been a most savoury dish now much admired in the East, and which a man with all his senses in perfection might not readily distinguish from a young gazelle similarly treated!" But all this speculation proceeds on the belief, that "the venison" here mentioned was the flesh of the deer. It will be observed that there was not the least dread, on the part either of Jacob or of his mother, that there might be the chance of detection from the food to be offered. Both see no unlikelihood that Esau's gift might itself be the kids of the goats—the young of members of the flock which had, as is not unfrequently the case, taken to the mountains. The author of "The Land and the Book," when referring to Engedi as one of the haunts of David, when he and his men were pursued by Saul (1 Sam. xxiv. 2), says—"The cliffs about Engedi were then called 'the rocks of wild goats;' and from them doubtless the place received its name En-gedi ('Ain-Jidy)—the Fountain of the Goats. Now, it is a remarkable and a pleasing circumstance that these bold and hardy dwellers upon the rocks are still found in the wild ravines about 'Ain-Jidy. I have seen the skin and powerful horns of one that was shot there by an Arab hunter." But the word (*tzayid*) rendered venison is even more general than this. It means either the hunter, that which he takes in the chase, or provision in general. It is thus used to distinguish Nimrod—"He was mighty of hunting (*tzayid*);" it

is associated with the prohibition of the blood of wild animals—"And whatsoever man there be of the children of Israel, or of the strangers that sojourn among you, *which hunteth and catcheth* any beast or fowl that may be eaten; he shall even pour out the blood thereof, and cover it with dust" (Lev. xvii. 13); and when God speaks of the abundant blessings which he has in store for the children of Zion, the word is rendered provision (Ps. cxxxii. 15)—

> "I will abundantly bless her *provision*,
> I will satisfy her poor with bread."

The venison in this case was whatever Esau might be able to take in the field. It is not to be limited to the flesh of the gazelle. Thus, on the score of the food, there would be no likelihood that the younger son's artifice would be detected by his aged father.

The epithet "savoury meat" is the translation of a word which indicates "preparation in order to beget relish." It is more than "well-tasted." The savoury meat pleased the palate and kept appetite alive. The highly seasoned food of the East, however unpalatable to Western tastes, is still a favourite at feasts. Dr. Russell, referring to the dainty dishes of the people of Aleppo, says—"They are either greasy with fat or butter, or pretty highly seasoned with salt and spices; many of them are made sour with verjuice, pomegranate, or lemon juice; and onions and garlic often complete the seasoning." Jacob was ordered by Rebekah to fetch "two good kids of the goats." To seek in this place, as has been done, a covenant meaning in the number two, is to find too much in the text. It has been said, "the venison is evidently like a sacrifice offered by the recipient of the blessing, and ratifying the proceedings; and hence Jacob killed and prepared *two* kids of the goats (ver. 9), whereas, for an ordinary meal, one would have been more than sufficient; it imparted to the ceremony, in certain respects, the character of a covenant: the one party showed ready obedience and sincere affection; while the other accepted the gift, and granted, in return, the whole store of happiness he was able to bequeath." But no such inferences are admissible; unless it could be shown that Esau on his return brought two goats, or two gazelles, from the hunting ground whither he had gone. As regards Rebekah's demand for "two," the only inference is, that they were both needed to supply the portions which were to be made into the "savoury meat."

Among the animals which Abraham was ordered to provide for the sacrifice (xv. 9), mention is made of a "she-goat three years old." The

word used here is the same (*ez*); and it is joined with a term (*gedi*) which always points to the young of the goat. A good deal of difficulty is found in identifying the species rendered goat, wild goat, he-goat, and the like. This results from the use of different words in the Hebrew Bible, which are rendered in English by the one word. The words employed in this passage are in a great measure, if not wholly, free from ambiguity. They are properly rendered "kids" and "goats," and refer to the common and well known species known under these

Fig. 100.

Syrian Goats (*Capra hircus*, var. *Mambrica*).

names. The zoological position of the goats (*Capridæ*) may be stated thus:—Order, *Ruminantia*, or cud-chewers; sub-group, *Cavicornia*, or hollow-horned animals, whose horns have a bony core; family, *Capridæ;* genus, *Capra;* species, *Capra hircus*, or common goat. The Syrian variety is known by the name *Mambrica*. The goat stands between the antelope and sheep. It is connected with the former by the capriform antelopes, and with the latter by the Abyssinian aoudad (*Ovis tragelaphus* — Cuv.), a species which inhabits the north of Africa. The Angora, Cashmir, and Syrian goats are varieties of the

common, so-called, species (*Capra hircus*). The ibex, or rock goat (*Capra ibex*, Plate XIII., Fig. 1—this species is named *C. Sinaitica* by Ehrenberg); the Caucasian goat (*Capra ægagrus*); the Nepaul jhâral (*C. jharal*); and the Jemlah goat (*C. jemlahica*)—are generally regarded as distinct specific forms. The difficulty which has been found in fixing the original stock of other domestic animals, is felt in the case of the goat also. Many have claimed the honour for the ibex, some for one or other of the Central India species; but the prevailing opinion points to the wild goat of the Caucasus and of Persia. It is characterized by many features of resemblance to the domestic goat, and is said to interbreed readily with it. But the likelihood is, that the parent stock has been lost in the numerous varieties into which the family has been broken up. Some have held that the goat is no more than a variety of sheep, widely removed. It has many points in common, yet it is hardly possible for any observer to form such an opinion, without setting at nought many well defined distinctive marks. The whole look of the animal points to generic separation. There is nothing in any variety of sheep which comes near the finely shaped head, slightly arched back, keen, restless, sharp eyes, and compact general structure of nearly every variety of goat. These features are seen even in the least cared for of domestic varieties, but are very strongly marked in the partially or wholly wild species. The instincts of the goat are also far more acute and varied than those of the sheep. It seems to wish to know everything going on around it. Not a bird alights on a bush beside it but gets a glance. It will watch for minutes the toad crawling past where it is feeding, and the slightest stir among the grass or in the bushes gets its attention. And while it may be seen cropping the stalks of the hemlock (*Conium maculatum*), the deadly water dropwort (*Œnanthe crocata*)—

"The insane root which takes the reason prisoner"—

the foxglove (*Digitalis purpurea*), the poppy (*Papaver rhœas*), and the nightshade (*Solanum dulcamara*), its senses of taste and smell are most acute. If its most cherished food be touched by human saliva, it will reject it with tokens of disgust.

The Syrian varieties of the goat are chiefly two: one resembles that domesticated in Britain, but much larger; and another, the more common kind, with long hair and pendulous ears. That even the latter variety does not command the attention of travellers, as differing widely from our English goats, is clear from the remarks of Shaw, who

never failed to notice broadly marked distinctive features. "The goat," he says, "of Syria is the same with that of other countries" (Travels, vol. i. p. 308).

The term *gedi*, kid, occurs in the following passages, and always means the young of the goat, unlike another word (*seh*) of frequent occurrence, which is used to express the young both of the sheep and the goat, and even of cattle:—Gen. xxi. 9, 16; xxxviii. 17, 20, 23; Exod. xxiii. 19; xxxiv. 26; Deut. xiv. 21; Judg. vi. 19; xiii. 15, 19; xiv. 6; xv. 1; 1 Sam. x. 3; xvi. 20; Isa. xi. 6. The same word is met with in another form in Song i. 8—"Go thy way, forth by the footsteps of the flock, and feed thy kids, beside the shepherds' tents." The term *ez*, or goat, is used seventy-two times in the Old Testament Scriptures. The classification of these passages, in which the Syrian goat (*Capra mambrica*) is always referred to, will keep our notices of other terms rendered "goat" in our version free from ambiguity. They (1) point to the goat as reared for food—"These are the beasts which ye shall eat; the ox, the sheep, and the goat." To this class of passages belong Gen. xv. 9; xxvii. 9, 16; xxx. 32, 33, 35; xxxi. 38; xxxii. 15; xxxvii. 31; xxxviii. 17, 20; Judges as above; 1 Sam. xvi. 20; xix. 13, 16; xxv. 2. (2) As a sin and a burnt offering—"If his offering be of the flocks, namely, of the sheep or of the goats, he shall bring it a male without blemish." So in all the passages in Leviticus and Numbers in which the word "goat" is associated with offering, excepting Lev. ix. 15; x. 16; xvi. 7, 8, 9, 27; Num. xxviii. 22; xxix. 22, 28, 31, 34, 38, in which the term for the scapegoat (*sahir*) is used in the same sense; Ezek. xlv. 23. (3) As a substitute for the paschal lamb—Exod. xii. 5. (4) As supplying hair for the curtains of the tabernacle, and for household purposes. All the passages in which "goats' hair" is spoken of contain this word. (5) As yielding milk—Prov. xxvii. 27, "Thou shalt have goats' milk enough for thy food, for the food of thy household, and for the maintenance of thy maidens." (6) As referred to figuratively—1 Kings xx. 27; Dan. viii. 5, 8. Some of these texts will be noticed in their places, and the other words rendered kids and goats by our translators will be considered as they occur:—"The wild goats" (*yehelim*), under Job xxxix. 1; "an he-goat" (*tayish*), Prov. xxx. 31; "the rough goat" (*tzaphir*), Dan. viii. 21; "lamb" (marg.), or "kid" (*seh*), Exod. xii. 3; "the live goat" (*sahir*), Lev. xvi. 20; "scapegoat" (*azazel*), Lev. xvi. 8; "goats" (*atood*), Ps. l. 13.

The savoury meat, and the wine by which it was accompanied, exhi-

larated Isaac, and, as one whom the Lord had blessed, and whose heart had been made glad (ver. 25, 26), he proceeded to bless his son—"And his father said unto him, Come near now, and kiss me, my son. And he came near and kissed him; and he smelled the smell of his raiment, and blessed him, and said, See, the smell of my son is as the smell of a field, which the Lord hath blessed. Therefore God give thee of the dew of heaven, and the fatness of the earth, and plenty of corn and wine: Let people serve thee, and nations bow down to thee: be lord over thy brethren, and let thy mother's sons bow down to thee: cursed be every one that curseth thee, and blessed be he that blesseth thee" (ver. 28, 29). Bright visions passed before the mind's eye. The garments of Esau, the man of the field who roamed through hill and valley, were redolent of the scent of aromatic herbs; they called up in Isaac's mind pictures of freshness, health, and abundance; his spirit, moved and struck, assumed a prophetic elevation, and he began the blessing—"The smell of my son is as the smell of a field." Even in our own land this expression finds abundant illustration. All have owned the sweetness of the odours from the red clover of the hay field, or from the blossoms of the bean, when the Lord is hastening on an abundant crop, or from the wild flower-clad bank when "the sweet south breathes"—phenomena which suggested to Milton a chief feature in the picture of Satan's approach to "the verdurous wall of Paradise:"—

> "Gentle gales,
> Fanning their odoriferous wings, dispense
> Native perfumes, and whisper whence they stole
> Those balmy spoils. As when, to those who sail
> Beyond the Cape of Hope, and now are past
> Mozambique, off at sea north-east winds blow
> Sabæan odours from the spicy shore
> Of Araby the Blest."—(Book iv.)

As Esau, the man of the field, followed the chase in the pastures of the plains, or amidst the brushwood on the sloping hills, his garments took the smell of the field which the Lord had blessed. No doubt the poetical form in which the blessing was expressed, gives greater prominence to this view than would otherwise have been done. Yet in all ages the hunter has been thus spoken of. It has ever been a favourite notion that his garments bore on them the fresh odours of the field. When the king is represented passing with his spouse "from Lebanon, from the top of Amana, from the top of Shenir and Hermon, from the

lions' dens, from the mountains of the leopards," her clothing takes the perfume of the vegetation amidst which they have been walking—"Thy lips, O my spouse, drop as the honeycomb: honey and milk are under thy tongue, and the smell of thy garments is like the smell of Lebanon." A walk on an April morning in any even of our own woods when the larch (*Larix Europœa*) is in full bloom, and the sunshine is drinking the dew sparkling on its pretty flowers, whose perfume is spread all around, will let more light in on the beauty and truthfulness of the imagery in this verse (Song iv. 11) than the most elaborate exposition can do. So fully persuaded were the ancients in the belief that the fields lent their perfumes to the garments of those who dwelt in them, that they readily credited the account of Herodotus as to how the Arabians got one of their most precious perfumes, and had recourse to the same method for collecting the fragrant gum. The Arabian *ledanum*, says Herodotus, "is found sticking like gum to the beards of he-goats, which gather it from the wood" (iii. 113). The blessing is continued in the strong words of a poetical utterance:—

"God give thee of the dew of heaven and of the fatness of the earth,
Plenty of corn and of wine!
Let people serve thee,
And let nations bow down to thee!
Be thou lord over thy brethren,
And let thy mother's sons bow down to thee!
Cursed be every one that curseth thee,
And blessed be he that blesseth thee!"

To see the full force of this, the blessing vouchsafed, after much earnest entreaty, to Esau, must be compared with it:—

"Behold, without the fatness of the earth shall be thy dwelling,
And without the dew of heaven from above.
And by thy sword shalt thou live;
And thou shalt serve thy brother;
But when thou shalt have dominion,
Thou shalt break his yoke from thy neck."

The rendering of the preposition in the two first clauses by "without," instead of by "of," as in our translation, is not only required in the circumstances, but is warranted by its use in other portions of Scripture. "The word *min* in the prophetic declaration of Isaac," says Kurtz, "may be rendered 'without' or 'far from.' This is grammatically correct, and demanded by the context. For in verse 37 Isaac complains

that he had no more corn nor wine to give, and in the prophecy itself emphasis is laid on the circumstance that Esau is to live by the sword." Thus we reach the implied contrast between the declaration made to Jacob and that uttered to Esau in answer to his "great and exceeding bitter cry" (ver. 34), when he again sought the blessing "carefully with tears" (Heb. xii. 17).

The expressions "dew of heaven" and "fatness of the earth" point to a land under conditions of general fruitfulness. The "corn and the wine" are the special products resulting therefrom. This "fatness of the earth" is the same as that brought out under three main aspects in Psalm civ. 14, 15:—

> "He causeth grass to grow for the cattle,
> And herb for the service of man;
> That he may bring forth food out of the earth;
> And wine that maketh glad the heart of man,
> And oil to make his face to shine,
> And bread which strengtheneth man's heart."

The fulfilment of the declarations of Isaac to his sons, Jacob and Esau, finds its illustration in the physical features of the countries assigned to their descendants. Canaan, when taken possession of by Israel reminded them, in every part where they pitched their tents, that the last promise had been fulfilled: God had given them of the fatness of the earth, and plenty of corn and wine. The wild mountainous tract which stretches from the Red Sea to the south-eastern shores of the Sea of the Plain, with its deep ravines, its rugged heights shooting grandly to the sky, its huge masses of porphyry, its weather-worn sandstones, and its jagged limestone cliffs, all point to the truthfulness of Isaac's declaration. The whole region forms still a fit dwelling-place for men who "live by their swords." The height of these porphyry cliffs is about 2000 feet above the Arabah, and that of the limestone ridges, which slope into the plateau of the great eastern desert, is not less than 3000 feet. In this wild tract, averaging little more than twenty miles broad, Esau had his dwelling. The fruitfulness of some of the valleys, the luxuriance of the trees, shrubs, and flowers to be met with in modern times in some of the river courses, and the flat terraces often seen on the mountain sides, have been pointed to as justifying the usual rendering of the utterance of Isaac—"Thy dwelling shall be of the fatness of the earth." But it is to be kept in mind, that the soil in such situations must be much deeper now than during the

first ages of the occupancy of the land by the Edomites. It is also to be remembered, that even as in the blessing of Jacob it was not implied, that there would be no unfruitful tracts in Canaan, so in the declaration to Esau it was not said that there would be universal sterility. In each the general and prevailing features were described. Jacob's portion was for the most part to be suited for pastoral and agricultural pursuits; Esau's was one meet for "a man of the field." In addition to the fatness of the earth, Jacob was promised the "dew of heaven"—"the precious thing of heaven" (Deut. xxxiii. 13). Its value in a land in which the drought of an almost rainless summer is most intense cannot be over-estimated. But then it is, when night comes and a cloudless sky looks down on Canaan, that the refreshing dew is formed in rich abundance. "Did you observe," asks a recent traveller, "that the dew rolled off our tent this morning like rain? And now the early sunbeams 'sow the earth with pearls and diamonds,' as Milton's muse describes these pendent drops that glitter and sparkle from every leaf in the forest and blade in the field."—(See "Dew" under Judges vi. 36.)

Platydactylus

1

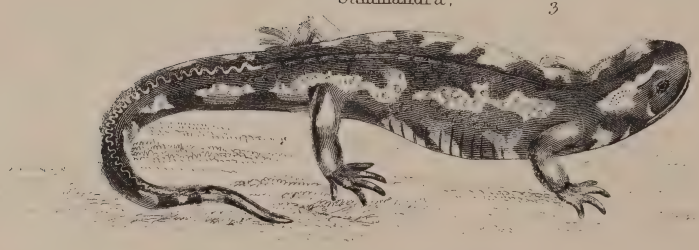
T. Ægyptiaca —*Egyptian Gecko.*

Triton.

2

T. Cristatus. —*Marbled Newt.*

Salamandra.



3

S.a Maculosa, —*Spotted Salamander.*

Scincus.

4

Scinc officinalis. —*Officinal Scink*

LEVITICUS XI. 29, 30.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON

GENESIS XXVIII.

JACOB'S mother saw the hatred of Esau, and dreaded some fatal collision between the brothers. By a characteristic device, she prevailed on Isaac to send his younger son into a distant land. "Isaac sent away Jacob: and he went to Padan-aram unto Laban, son of Bethuel the Syrian, the brother of Rebekah" (ver. 5). "And Jacob went out from Beersheba, and went toward Haran" (ver. 10). On this journey the first meeting with God at Beth-el occurred. The locality, we have seen, had already become noted in the history of the chosen seed. Abraham had visited it more than once. His household and that of Lot had lingered for a season in the neighbourhood. God had been worshipped by Abraham on the very spot where Jacob now lays himself down to sleep, resting his head on one of the large stones which still abound in that district. There he dreams, and in blessed vision sees as on "altar steps, which sloped through darkness up to God," angels ascending and descending (ver. 12). "It is impossible," says Dr. Stanley, "not to recall, in this 'stony territory,' the wanderer who 'went out from Beersheba and went toward Haran; and he lighted upon a certain place, and tarried there all night, because the sun was set; and he took of the stones of that place and put them for his pillow, and lay down in that place to sleep.' Then rose the vision of the night. The stones around seemed to form themselves into the steps of a vast 'staircase' 'whose foot was set upon the earth'—on the bare sheet of rocky ground on which the sleeper lay; 'and whose top reached to heaven'—into the depths of the starry sky, which, in that wide and open space, with no intervening tree or tent, was stretched over his head. 'And Jacob awaked out of his sleep and said—Surely the Lord is in this place, and I knew it not; and he was afraid, and said—How dreadful is this place, this is none other than the house of God, and this is the gate of heaven.' Such was the beginning of Beth-el, 'the house of God,' the place which bore, amidst all the subsequent sanctuaries of the Holy Land, the distinctive name which has since spread to every holy place throughout the world; its connection with the scene is best expressed in the wanderer's own words—'The Lord is in this

place, and I knew it not.' There is, indeed, nothing to indicate the Divine presence; no *religio loci*, no awful shades, no lofty hills. Bare wild rocks, a beaten thoroughfare, are the only features of this primeval sanctuary of God. Nature itself there teaches us, that if he could, in such a scene, so emphatically reveal himself to the houseless exile, he 'is with him,' and with his true servants, everywhere, and will 'keep them *in all places* whither they go.' From that rude beginning—the rough 'stone that Jacob set up for a pillar'—grew the sanctuary of Beth-el."—(S. and P., p. 219.)

The stone which had served as a pillow "was set up for a pillar"—a memorial stone, serving to mark the incident to after generations. The custom has not died out. Even still it is not uncommon for the wanderer to set up a stone before leaving a place where he has been kindly dealt with. The custom is not, however, so frequent now as it used to be. In different places in Britain, memorial stones still stand, provoking the curiosity of the antiquary, but telling no tale of the men by whom they were erected, or of the nature of the events which at first they commemorated. That set up by Jacob at Beth-el may be regarded as the key to the meaning of all the rest. In his case the act was one of religious significance. Thus with the stones noted in classic literature—the stone at Delphi, the pyramidal stone at Paphos, the conical stones at Heliopolis. Thus also the celebrated black stone, fixed outside of the Kaaba, at Mecca, and most likely many of the so-called "monumental stones" of Scandinavia and of Britain. The feelings which prompted to the setting up of such stones were not changed with the introduction of Christianity. The huge wayside cross took the place of the tapering monumental stone. The widespread prevalence of this custom, even though practised by heathens, forms another most interesting link between the period of the patriarchs and more recent times. It shows also how unerringly similar feelings in all ages follow similar modes of manifestation.

Jacob "called the name of that place Beth-el (house of God): but the name of that city was called Luz at the first." The design of the writer is evidently to distinguish between Beth-el and Luz. The latter was at that time the city, the former was the locality around it. Jacob did not enter Luz on his way to Mesopotamia. He trusted himself to the care of his father's God. Sleep sealed his eyelids; the vision passed. "Surely," said he, "the Lord is in this place." It is Beth-el—the very house of God, the gate of heaven.—(See Beth-el under 1 Kings xii. 29.)

GENESIS XXIX.

JACOB went on his journey (lifted up his feet), and came into the land of the people (children) of the east (ver. 1). Who were these children of the east? The question is important and interesting both as regards Scripture and ethnology. In chapter xxv. 6, Abraham is said to have sent away the sons of his concubines from Isaac "eastward, to the east country," literally to the *land of Kedem*. The inhabitants of the region named were the children of the east (*Beni Kedem*). The biblical use of the word "east" has already been noticed. When it points to a district, we may include in it, in a general way, the regions lying between and immediately beyond the Euphrates and Tigris, and those stretching along the shores of the great Arabian Gulf. The different passages in which "the children of the east" are mentioned, go far to help us to identify them. In addition to that under notice, we have the following:—"And so it was, when Israel had sown, that the Midianites came up, and the Amalekites, and the children of the east, even they came up against them; and they encamped against them, and destroyed the increase of the earth, till thou come unto Gaza; and left no sustenance for Israel, neither sheep, nor ox, nor ass. For they came up with their cattle and their tents, and they came as grasshoppers for multitude: for both they and their camels were without number: and they entered into the land to destroy it" (Judg. vi. 3–5). They are distinguished here from the Midianites and the children of Amalek. Their numbers and their freebooting habits point to tribes similar to many still roaming in the wilds of Arabia. The general way in which they are named, indicates both that they dwelt more remote from Israel than Midian and Amalek, and that they constituted a variety of tribes:—"And God gave Solomon wisdom and understanding exceeding much, and largeness of heart, even as the sand that is on the sea-shore. And Solomon's wisdom excelled the wisdom of all the children of the east country, and all the wisdom of Egypt" (1 Kings iv. 29, 30). This passage must be classed with that in which Job is described, and with reference to "the men of the east" in the New Testament. "His substance also was seven thousand sheep, and three thousand camels.

and five hundred yoke of oxen, and five hundred she-asses, and a very great household; so that this man was the greatest of all the men of the east" (Job i. 3). "Now when Jesus was born in Bethlehem of Judea, in the days of Herod the king, behold, there came wise men from the east to Jerusalem, saying, Where is he that is born King of the Jews? for we have seen his star in the east, and are come to worship him. The star, which they saw in the east, went before them, till it came and stood over where the young child was" (Matt. ii. 1, 2, 9). It is clear from these quotations that learning was much cultivated among many of the *Beni Kedem*, into whose land Jacob went. Other allusions to this, lead us to conclude, that the children of the east were tribes who in common with the chosen seed had still some knowledge of the true God, that, in a word, they were members of a true Semitic branch of Noah's descendants. This knowledge long lingered among them. Job and his friends were men of the east. Balaam was an Arab prophet, and an Arab king acknowledged him as taught of God. The "queen of the south" came to inquire of the wisdom of Solomon; and the men who hastened to Bethlehem to greet the infant Jesus, were "wise men from the east." Though we find the children of the east in aftertimes leagued against Israel, earlier they had many points in common. The incident in the history of Gideon, when he went as a spy to the hosts confederate against his people, sheds yet more light on this, and shows that the relation was so close, that the Hebrew could understand the language spoken by his enemies:—"And it came to pass the same night, that the Lord said unto him, Arise, get thee down unto the host; for I have delivered it into thine hand. But if thou fear to go down, go thou with Phurah thy servant down to the host: and thou shalt hear what they say; and afterward shall thine hands be strengthened to go down unto the host. Then went he down with Phurah his servant unto the outside of the armed men that were in the host. And the Midianites, and the Amalekites, and all the children of the east, lay along in the valley like grasshoppers for multitude; and their camels were without number, as the sand by the sea-side for multitude. And when Gideon was come, behold, there was a man that told a dream unto his fellow, and said, Behold, I dreamed a dream, and, lo, a cake of barley-bread tumbled into the host of Midian, and came unto a tent, and smote it, that it fell, and overturned it, that the tent lay along. And his fellow answered and said, This is nothing else save the sword of Gideon the son of Joash, a man of Israel: for into his hand hath God delivered Midian, and all the host" (Judg. vii.

9–14). Distinguished again in this passage from Midian, the expression, "children of the east," is afterwards used as embracing the whole host which came up against Palestine. "Now Zebah and Zalmunna were in Karkor, and their hosts with them, about fifteen thousand men, all that were left of all the hosts of the children of the east: for there fell an hundred and twenty thousand men that drew sword" (Judg. viii. 10). In Isaiah xi. 14, the promise is made to Israel as a revived people that "they shall spoil them (literally the children) of the east together; they shall lay their hand upon Edom and Moab; and the children of Ammon shall obey them." In Jeremiah xlix. 28, 29, the incursion of Nebuchadrezzar is threatened against the "men of the east," who are mentioned in such a way as to leave no doubt that, in this instance, the true Arabians are referred to:—"Concerning Kedar, and concerning the kingdoms of Hazor, which Nebuchadrezzar king of Babylon shall smite, thus saith the Lord, Arise ye, go up to Kedar, and spoil the men of the east. Their tents and their flocks shall they take away: they shall take to themselves their curtains, and all their vessels, and their camels; and they shall cry unto them, Fear is on every side." And in Ezekiel xxv. 4, 5, their Arabian character is even more clearly indicated. Addressing the Ammonites, the Lord says:—"Behold, therefore, I will deliver thee to the men of the east for a possession, and they shall set their palaces in thee, and make their dwellings in thee: they shall eat thy fruit, and they shall drink thy milk. And I will make Rabbah a stable for camels, and the Ammonites a couching-place for flocks; and ye shall know that I am the Lord."

The examination of these passages warrants the following inferences:—(1) That the term "children of the east" (*Beni Kedem*) was used to denote certain offshoots of the children of Arphaxad; (2) That it later included the Joktan Arabs who settled in Arabia Felix or Yemen, distinguished in the east as Bar-el-Yemen—"the land to the right"—in opposition to Syria known as Bar-el-Sham—"the land to the left;" (3) That, later still, it included the descendants of Ishmael and Esau, as well as those of Joktan; and (4) That many of the people known by this name had the knowledge of the true God, and long remained devoted to the cultivation of learning. This last inference might be very fully illustrated from the after history of the regions included under the term Kedem or "the East."

When Jacob drew near Haran the picturesque scene described in verses 2–10, presented itself to him. The well, however, does not appear to have been the same as that to which Eliezer of Damascus

came, when he went to seek a wife for Isaac. It was near to the city, this one was in the field. It served to supply water to the people, this was for the flocks. It was reached by steps, here the water rises to the surface. It was uncovered, this one is covered by a large stone. This minute description gives great distinctness to the difference between the two narratives. The mouth of the well in the field was closed for the double purpose of making access to the water difficult, and thereby preventing waste, and of protecting the water from the loose sand which might be driven into it by the wind. The scene is still characteristic of the East. "The fact that Laban's daughters were keeping the flocks, and Jacob's mother carrying water from the well, and other similar examples, do not contradict the customs of wealthy Eastern shepherds. And who that has travelled much in this country has not often arrived at a well, in the heat of the day, which was surrounded with numerous flocks of sheep waiting to be watered? I once saw such a scene in the burning plains of northern Syria. Half-naked, fierce-looking men were drawing up water in leather buckets; flock after flock was brought up, watered, and sent away; and after all the men had ended their work, then several women and girls brought up their flocks and drew water for them. Thus it was with Jethro's daughters when Moses stood up and aided them; and thus, no doubt, it would have been with Rachel, if Jacob had not rolled away the stone and watered her sheep. I have frequently seen wells closed up with large stones, though in this part of the country it is not commonly done, because water is not so scarce and precious. It is otherwise, however, in the dreary deserts. Cisterns are very generally covered over with a large slab, having a round hole in it large enough to let down the leather bucket or earthen jar. Into this hole a heavy stone is thrust, often such as to require the united strength of two or three shepherds to remove. The same is seen occasionally over *wells* of 'living water;' but where they are large and the supply abundant no such precaution is needed. It was either at one of these cisterns, or less abundant and more precious wells, that Jacob met Rachel; and being a stout man, nearly seventy years of age, he was able to remove the stone and water the flock."—(*Thomson.*) "Over most of the cisterns," says Dr. Robinson, "is laid a broad and thick flat stone, with a round hole cut in the middle, forming the mouth of the cistern. This hole we found in many cases covered with a heavy stone, which it would require two or three men to roll away."—(Researches i. 490.)

The moral bearings of the narrative of Jacob's journey to Haran,

and his experience in the house of his uncle, are marked with great distinctness in this narrative. "Among the earliest seeds sown by Jacob were deceit and craft; and flight and exile were the first fruits of his harvest." The fruits assumed forms even liker the seeds during his sojourn with Laban. These deserve some notice here, because of their influence on the after history of that chosen people, which is so fully traced in the infallible record.

Foremost among these is his treatment connected with his attachment to Rachel. Though he had obtained the blessing, and been promised "the fatness of the earth," he was obliged to leave his father's house unattended, and as one thrown wholly on his own efforts. With the pilgrim's staff in his hand he passed over Jordan, and bent his steps to Mesopotamia. Becoming devoted to Laban's youngest daughter, he could not, as in his father's house would have been the case, offer the customary gifts to her relatives, and at once make her his own. He had no substance, and was forced to serve seven years instead. "It was humiliating, however, to be thus in a manner obliged to earn his wife before he could have her." To this the prophet points as a proof of his low condition:—"And Jacob fled into the country of Syria; and Israel served for a wife, and for a wife he kept sheep" (Hos. xii. 12). This moreover was to continue as a lesson to his posterity in all times. Even in the season of Israel's joy, when the nation was made glad by a plentiful harvest, every true Israelite was to go to the priest in tabernacle or temple saying, as he offered to him "the basket of first fruits"—"I profess this day unto the Lord thy God, that I am come unto the country which the Lord sware unto our fathers for to give us." And, in memory of the straits to which Jacob had been reduced, he was to add—"A Syrian ready to perish was my father" (Deut. xxvi. 3, 5).

When his seven years' service was completed, he was again wounded in his tenderest feelings. The years "had seemed unto him but a few days, for the love he had to Rachel" (ver. 20). The marriage feast passed away in joy. The veiled bride was given in the evening to Jacob, but in the morning he found that again his own former craft bore fruit in Laban's deceit. Leah had been put in the place of Rachel. "What is this," he said, "thou hast done unto me? did not I serve with thee for Rachel? wherefore, then, hast thou beguiled me?" (ver. 25.) Thus God's dealings will recall his own conduct. "Woe to thee that spoilest, and thou wast not spoiled; and dealest treacherously, and they dealt not treacherously with thee! when thou shalt cease to spoil,

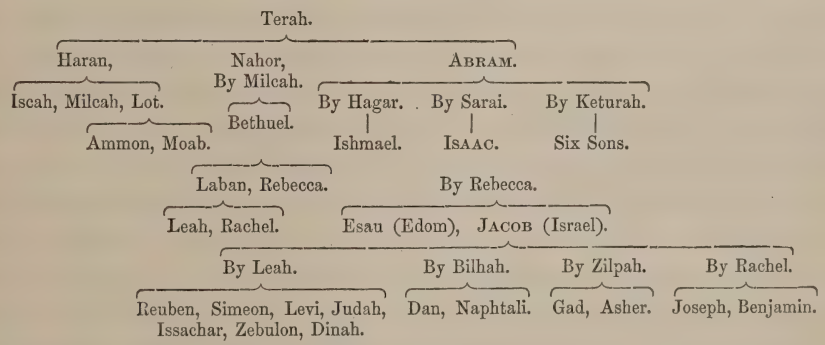
thou shalt be spoiled; and when thou shalt make an end to deal treacherously, they shall deal treacherously with thee" (Isa. xxxiii. 1). The heartless answer of Laban came to Jacob as yet another retributive stroke—"It must not be so done in our country, to give the younger before the first-born. Fulfil her week, and we will give thee this also for the service which thou shalt serve with me yet seven other years" (ver. 26, 27). The custom of refusing a younger daughter in marriage while an elder sister has not been given away, still obtains in those trans-Euphratic countries whose manners were practised in the household of Laban.

Rachel's name may be noticed as indicating a point of resemblance between the choice of names in these early times, and that current even among the nations of the west in more recent periods. Rachel, or Rahel, literally means "sheep" or "ewe." The word is thus rendered in Genesis xxxi. 38—"Thy *ewes* and thy she-goats have not cast their young;" in xxxii. 14—"Two hundred she-goats, and twenty he-goats, two hundred *ewes*, and twenty rams;" in Song vi. 6—"Thy teeth are as a flock of *sheep*, which go up from the washing;" and in Isaiah liii. 7—"He is brought as a lamb to the slaughter, and as *a sheep* before her shearers is dumb, so he openeth not his mouth." The practice of giving names to individuals, and even to families, from domesticated animals, has prevailed in all nations. The equivalents of the name of Laban's younger daughter may be traced in all the branches of the Semitic stock of language.

The device of Jacob's crafty uncle assumed influences of a still more deplorable kind. It turned him away from the example of his father in the matter of marriage, and ushered him into all the evils of polygamy. The fence having been once broken down, we cease to wonder at the great departure from the mind of God which characterized Jacob's domestic relations: as, for instance, in the matter of the handmaidens of his wives. His example must have told in a most hurtful way on the morality of his descendants, and may have tended to perpetuate a system in neighbouring countries as fruitful of household misery as it is prejudicial to public morality. In lands bordering on those in which Jacob now sojourned the custom is still common, and it is to be met with as prevalent especially in localities to which the influence of the East ever quickly extended. "Every woman," says Dr. Shaw, when describing the manners and customs of North African tribes, "has at least one female slave to attend her; whilst others have two or more, according to their rank and quality. In this manner we find that

Hagar was Sarah's handmaid; that Rebekah, when she was betrothed to Isaac, was attended by her nurse (Gen. xiv. 59) and her damsels, ver. 61; that Laban (Gen. xxiv. 24) gave unto his daughter, Leah, when she was married to Jacob, Zilpah, his maid, for a handmaid; and unto Rachel (ver. 29), upon the like occasion, Bilhah, his handmaid, to be her maid."—(Travels, i. 431.)

The dowry of Laban to Leah and Rachel was, by the slack morality of Jacob, turned into a source of domestic strife, envy, and personal jealousy. Nor is it the slightest palliation of this that the relations entered into so easily by Jacob were overruled by God to the hastening the fulfilment of the grand promise made to Abraham—"As the stars so shall thy seed be." The discords, which became permanent in his household, testified to the bitter fruits which the ties thus formed bore. And no doubt the prohibition in Leviticus xviii. 18, was given by God to Israel to prevent the occurrence of such domestic contentions—"Neither shalt thou take a wife to her sister, to vex her, to uncover her nakedness, besides the other in her lifetime." The offspring of these complicated relationships fall to be connected with Abraham's father in this way:—



This list prepares us for the farther development of the chosen seed, and introduces us to one name, which was to become distinguished above all the others—Judah, the head of the "lion tribe" of Israel, and the ancestor of Messiah the Prince—"Judah, thou art he whom thy brethren shall praise; thy hand shall be in the neck of thine enemies; thy father's children shall bow down before thee. Judah is a lion's whelp" (xlix. 8, 9).

GENESIS XXX.

"AND Reuben went, in the days of wheat-harvest, and found mandrakes in the field, and brought them unto his mother Leah. Then Rachel said to Leah, Give me, I pray thee, of thy son's mandrakes. And she said unto her, Is it a small matter that thou hast taken my husband? and wouldest thou take away my son's mandrakes also? And Rachel said, Therefore he shall lie with thee to-night for thy son's mandrakes. And Jacob came out of the field in the evening, and Leah went out to meet him, and said, Thou must come in unto me; for surely I have hired thee with my son's mandrakes" (ver. 14, 16). Very few interpreters of Scripture have been able to resist the temptation to theorize on the fruit which had such fascination both for Rachel and Leah. Almost every traveller also in Eastern climes has thought himself bound to contribute something to the literature of the question, "What are mandrakes?" As with very many biblical questions, this one has suffered much by not being examined in the light of the context. Few subjects have had so much attention devoted to them as the mandrake. For several reasons it merits this, but chiefly from the light which a proper understanding of it must shed on the spiritual condition of the wives of Jacob. (1) Let us inquire what were the general circumstances accompanying this conversation between the two sisters. When Leah had borne four sons—Reuben, Simeon, Levi, and Judah—"she ceased bearing." Rachel was as yet childless. Her maid, Bilhah, had indeed, as for her, borne Dan and Naphtali to Jacob, but Rachel was still dissatisfied. Leah appears to have been in the same state of mind when Reuben found the mandrakes, in search of which he had gone into the field. The daughters of Laban associated the fruit with the state of their own bodies, and believed that to partake of it would conduce to fruitfulness. Rachel at the time was the favourite wife of Jacob, but she was willing, for the sake of the mandrakes, that Leah should cease to be despised as she had been. Thus the bargain. Leah's address to Jacob implied that she believed he regarded the fruit from the same point of view as did Rachel and herself. It does not appear that she gave all the fruit collected by Reuben. Rachel's request

was only for a share of it. The whole narrative is thus suggestive of these two things:—On the one hand, the mandrakes were thought to act as a remedy for unfruitfulness; and, on the other hand, they were evidently rare in the locality in which Jacob at this time resided. This latter fact has been almost generally overlooked by interpreters. They have written on these verses as if the scene were in Palestine, and not in Mesopotamia; and to several it has appeared an objection to the attempt to identify the mandrake with a well known plant of Palestine, that it is comparatively common in the land, and could easily have been obtained by Laban's impatient and wilful daughter! (2) Have the mandrakes been identified, or has an approach to identification been made? It might almost be said that the efforts in this direction are innumerable. The Hebrew word *dŭdăim*, rendered "mandrakes" in this passage, is used in the same form only once more in the Bible. In the Song vii. 10–13, the Bride says—"Come, my beloved, let us go forth into the field; let us lodge in the villages. Let us get up early to the vineyards; let us see if the vine flourish, whether the tender grape appear, and the pomegranates bud forth: there will I give thee my loves. The mandrakes give a smell, and at our gates are all manner of pleasant fruits, new and old, which I have laid up for thee, O my beloved." The biblical elements for identification come thus to be the name *dŭdăim*, or *love plant;* the period at which it is ripe for gathering, namely, the season of the wheat-harvest, which occurs in the end of April and beginning of May; and last, the fragrance of the plant, as alluded to in the Song. In very few cases have all these elements been kept in view. The classification of results cannot but convince the student that very much labour has been wasted on the matter. The plantain (*Musa paradisiaca*) has had a large share of attention devoted to it, in the belief that it represents the *dŭdăim* of this passage. But its size and other features are wholly opposed to this. Reuben "found the mandrakes." He had been in search of fruit which could not have so stood out as that of the *Musa* would have done. Shaw (Travels, vol. ii. 148), referring to this, says—"It could not, as I presume, from the very nature and quality of it, grow wild and uncultivated, as the dŭdăim must certainly have done." Referring to the theories current on this point, he adds—"Others, again, as the dŭdăim are supposed to denote something amiable and delightful, have taken them for cherries, and that the dŭdai, consequently, which we interpret 'baskets' (Jer. xxiv. 1), were made of the cherry-tree. But the same with equal reason might have been asserted of the plum, or of the apricot, or of

the peach, or of the orange, or lemon, which might have been as rare and no less delightful than the cherry; though it is more probable that none of these fruits were known in Judea in those early times, not having been propagated so far to the westward till many ages afterwards. However, what the Christians of Jerusalem take at present for dŭdăim are the pods of the jelathon, a leguminous plant peculiar to the corn fields, which, by the many descriptions I had of it (for it was too early when I was there to see it), it should be a species of the winged pea; probably the hierazune, or the lotus tetragonolobus. In no small conformity likewise with this account, the melilotus odorata violacea of Morison, the lotus hortensis odorata, and the lotus sativa odorata, have been taken for the dŭdăim. It is certain that the bloom of all, or most of the leguminous plants, yields a grateful smell (Cant. vii. 13), a quality which they have so far at least in common with the dŭdăim." This extract is given as an average specimen of the mode of looking at this question. Jasmines, mushrooms, lilies, &c., have all had claims put in for them. (3) What other plant appears to answer the biblical features named above? The reply may be made with much confidence, that the dŭdăim is represented by the mandrake properly so called, the *Atropa mandragora* (= *Mandragora vernalis*) of botanists. It has long been noted as a love apple (*pomum amatorium*), it ripens at the time of the wheat-harvest, and in early spring its flowers "give a smell." Though common in Palestine, it is not so in Mesopotamia, though it is to be met with here and there. Thus its value, and thus the mode in which it is spoken of as having been found by Reuben making search for it. The attention of intelligent travellers was early called to its existence in Palestine, and to the uses to which it was applied. Maundrell (1697), in his "Journey from Aleppo to Jerusalem," says—"Our company halting a little while at Naplosa, I had an opportunity to go and visit the chief priest of the Samaritans, in order to discourse with him about some difficulties occurring in the Pentateuch; which were recommended to me to be inquired about by the learned M. Job Ludolphus. I inquired of him what sort of a plant or fruit the dŭdăim, or, as we translate it, mandrakes, were, which Leah gave to Rachel for the purpose of her husband's embraces? He said that they were plants of a large leaf, bearing a certain sort of fruit, in shape resembling an apple, growing ripe in harvest, but of an ill savour, and not wholesome; that the virtue of them was to help conception, being laid under the genial bed; that the women were often wont so to apply it at this day, out of an opinion of its prolific virtue. Of these

plants I saw several afterwards in the way to Jerusalem." Later, Hasselquist found it in great plenty near Nazareth:—"I had not the pleasure to see this plant in blossom, the fruit now hanging ripe to the stem, which lay withered on the ground; but I got several roots, which I found difficult to procure entire, as the inhabitants had no spades, but a kind of hoe, or ground axe; with this they cut up the earth, and hurt the root, which in some plants descended six and eight feet under ground. From the season in which this mandrake blossoms and bears fruit, one might form a conjecture that it was Rachel's dŭdăim. These were brought her in the wheat-harvest, which, in Galilee, is the month of May, or about this time, and the mandrake was now in fruit. This plant grows in all parts of Galilee, but I never saw or heard anything of it in Judea. The Arabs in this village call it by a name which signifies, in their language, the devil's victuals." The Arabs still name the mandrake *Tufa-el-Sheitan*—"the apples of Satan;" and another related plant (*Solanum spinosum*) they name *Tufa-el-Mejanim*, or "mad apples." (4) The position of the mandrake (*Atropa mandragora*) in systematic botany. It is a dicotyledonous plant, and belongs to the natural order *Solanaceæ*, or nightshade family—an order of plants which lies between the figworts (*Scrophulariaceæ*), the broom-rapes (*Orobanchaceæ*), and the mulleins (*Verbasaceæ*), on the one hand, and the borages (*Boraginaceæ*), the dodders (*Cuscutaceæ*), and the bindweeds (*Convolvulaceæ*), on the other hand. In the third family above them we have such well known plants as the speedwell, foxglove, mimulus, toadflax, and eyebright; and in the third below them occur the bindweeds, gentian, &c. The intermédiate groups, with the exception of the borages, are not so well known. The broom-rapes above, and the dodders below, are parasitic plants. The Solanaceæ have generally eighteen genera ranked under them. Of these, four are to be met with in Britain—the thorn apple (*Datura*), henbane (*Hyoscyamus*), nightshade (*Solanum*), and dwale, or deadly nightshade (*Atropa*). The mandrake ranks as a species under the last-named genus. All the British representatives of this order are less or more poisonous. Some of the foreign representatives of the order are edible—as, for example, the potato (*Solanum tuberosum*), the winter cherry (*Physalis*), and the *Lycopersicum*, whose fruit is the well-known tomato.

Though the thorn apple is generally ranked among British plants, the common species (*D. stramonium*) is a native of America, and the red species (*D. sanguinea*) was introduced to England from the East about 1597. It has powerful narcotic and poisonous effects when

partaken of. The henbane has also strong narcotic qualities, and, if even a small quantity of its seeds be eaten by man, death is likely to ensue. The true nightshades or bitter-sweets, though not so dangerous as these, have yet the same qualities in a modified degree. The most deadly member of the group, however, is the *Atropa*, or dwale. It is comparatively rare, and may easily be distinguished by its large oval leaves, nearly a foot long, and four or five inches broad, its rounded, branched, and slightly downy stalk. Its whole appearance is suggestive of hurtful qualities. Its name dwale is an Anglicised form of the French *deuil*, or mourning. The mandrake, though fitted to attract attention from the same general gloomy appearance, is not so powerful, even as a narcotic, as the dwale (*Atropa belladonna*). The root of the mandrake is large, fleshy, slightly tapering below, and meeting at the surface a thick set tuft of deep green, hairy, pointed leaves. The shape of the root, like that of the orchis,

Fig. 101.

Mandrake (*Atropa mandragora*).

> "Which liberal shepherds dead men's fingers call,"

has formed a theme around which much superstition has clustered; the fancy of the ignorant being, that it resembles a human body, is possessed of animal feelings, and shrieks when torn from the earth. Reference is made to this superstition by the dramatist:—

> "Wherefore should I curse them?
> Would curses kill as doth the mandrake's groan,
> I would invent as bitter searching terms . . . . .
> As lean-faced envy in her loathsome case."

The effect which credulity was sure would follow to those who should hear the "groans," is described in another passage:—

> "And shrieks like mandrakes torn out of the earth,
> That living mortals hearing them run mad."

(5) Rachel's belief in the virtue of the mandrake fruit. She was persuaded that it had the power of procuring fruitfulness. Its stimulating effect on the nervous system led to the use of a preparation of it as a love potion. Rachel's confidence in its efficacy warrants the inference that Laban's daughters were still strongly on the side of the superstition, which prevailed among those in the midst of whom they dwelt. Indeed her theft of the idols (xxxi. 19) indicates how very far, in the knowledge of the true God, she was behind her husband. It ever implies a degraded spiritual nature, to find means exalted to the place of God, without whose blessing their use is valueless. In this case, moreover, there was evidence of even greater degradation, because the mandrake was rested in as a procuring cause of fruitfulness.

It is worthy of notice, that all the plants to which reference has been made as closely related to the *Mandragora vernalis*, stand associated with superstitions of one kind or another. They all

> "A horrid crop produce,
> Noxious and fit for witchcraft's deadly use."

The red thorn apple is believed to be specially under the care of Satan, who works out his own ends by it. It is employed by some of the Indians to throw their prophets into the state of wild phrensy, in which all their utterances are treasured up as words of inspiration. There is little doubt this was the means used in the oracular shrines of old, as for example that at Delphi, to prepare the oracle for overawing those who came to consult it. In many countries the root of the henbane is cut into small rounded pieces which are strung as a necklace, and hung around the necks of children to promote the growth of the teeth. Woody nightshade, the old English "bytterswete," is sometimes used in the same way. But next to the mandrake, the belladonna (banewort, or deadly nightshade) has had most attention devoted to it. Its very powerful poisonous effects would be sure to secure this. In the Sloane MS. it is noted "for to take alle maner of byrdys." The author gives in due form the *recipe*—"Take," he says, "whete or other corne, and take guse of dwale, and menche the corne therein, and ley it by the byrde's

Fig. 102.

Deadly Nightshade (*Atropa belladonna*).

hawnteyne (*haunt*); and when they have eaten thereof, they shall slepe that ye may take them with your handys." It was in former days believed, by the Italian ladies, to secure to them lasting beauty, when its juices were used as a cosmetic. Hence the name *belladonna*. And in Britain at this day, it is not unfrequently used to give brilliancy to the eye, by those who have not yet learned that "favour is deceitful and beauty is vain, but a woman who feareth the Lord, she shall be praised" (Prov. xxxi. 30).

But it is specially in connection with the mandrake that we find the views of Rachel illustrated down to recent times. To this day it is used in the East as she used it. And even many of the Greek youths cut the roots into small pieces and wear them as love charms, while a preparation of the fruit is taken as a *philtre* or love-potion. The Emperor Julian has left it on record, that he drank the juice of mandragora as a philtre. The same thought is suggested in the title *Mandragorites* applied to Venus. Such facts throw much light on Rachel's eagerness to obtain the mandrakes which Leah's youthful son found in the fields. The well known soothing and soporific effects of the vernal mandragora, might be very fully illustrated, but Shakspeare's references to its use will suffice:—

> "Dangerous conceits are, in their natures, poisons,
> Which, at the first, are scarce found to distaste;
> But, with a little act upon the blood,
> Burn like the mines of sulphur.—I did say so:—
> Look, where he comes! Not poppy nor mandragora,
> Nor all the drowsy syrups of the world,
> Shall ever medicine thee to that sweet sleep,
> Which thou owed'st yesterday."—(*Othello*, Act iii.)

The like effect is ascribed to it in "Antony and Cleopatra:"—

> *Cleo.* Ha! ha!
> Give me to drink mandragora.
> *Char.* Why, Madam?
> *Cleo.* That I might sleep out this great gap of time.
> My Antony is away.—(Act i.)

In Palestine and Arabia the fruit of the mandrake is eaten without any dangerous results, when partaken of in moderation. It is found as soothing as the juice of the poppy, and less hurtful to the system. If much of it be taken, great excitement follows.

In order to see the bearings of Jacob's experiences during his sojourn

at Haran, the circumstances of his life must be regarded as the divine means for the discipline of his soul. The period of his life passed with Laban tended, more than any other, to develope all the elements of a not very frank, but peculiarly shrewd disposition. The tokens of God's care and goodness which ever called forth feelings of humble gratitude, helped to control and modify moral tendencies, which would otherwise have made him a mere scheming and crafty man of the world. Even, however, in the midst of this general habit of the acknowledgment of the mercy and kindness of the God of his fathers, the darker aspects of his character were ever forward to spring into influential action. Something of the same disposition which led him to co-operate readily with his mother in obtaining Isaac's blessing, crops out in his dealings with his uncle in regard to his reward for service. Laban's selfishness had been greatly gratified by the increase of his flocks under the care of Jacob. The acknowledgment of this assumed the very highest form: "And Laban said unto him, I pray thee, if I have found favour in thine eyes, tarry; for I have learned by experience, that the Lord hath blessed me for thy sake" (ver. 27). Jacob saw at once, in this speech, a prospect of wealth opening up to him, and in addressing his uncle, he was specially careful to give marked prominence to the highest aspect of it: "Thou knowest how I have served thee, and how thy cattle was with me. For it was little which thou hadst before I came, and it is now increased unto a multitude; and the Lord hath blessed thee since my coming: and now when shall I provide for mine own house?" (ver. 27, 29, 30.) The subject is put with great skill, and sheds much light on the distinctive features of Jacob's character. How could he better have gained his end than by such an appeal to Laban? "And he said, what shall I give thee? And Jacob said, thou shalt not give me any thing. If thou wilt do this thing for me, I will again feed and keep thy flock. I will pass through all thy flock to-day, removing from thence all the speckled and spotted cattle, and all the brown cattle among the sheep, and the spotted and speckled among the goats; and of such shall be my hire. So shall my righteousness answer for me in time to come, when it shall come for my hire before thy face: every one that is not speckled and spotted among the goats, and brown among the sheep, that shall be counted stolen with me. And Laban said, Behold, I would it might be according to thy word. And he removed that day the he-goats that were ring-straked and spotted, and all the she-goats that were speckled and spotted, and every one that had some white in it, and all the brown among the sheep, and gave them into the

hand of his sons" (ver. 31–35). Under the word cattle both the sheep and the goats are spoken of. The sheep were generally white. Thus they serve as an illustration in the Song—"Thy teeth are like a flock of sheep that are even shorn, which came up from the washing" (iv. 2). And the prevailing natural colour of the goats was black. Thus the hair of the bride in the song is referred to as like "a flock of goats;" the contrast being between black and white, as in the case of the bridegroom—"My beloved is white and ruddy. His locks are bushy and black as a raven" (Song v. 10, 11). Any varieties from these normal colours, Jacob was willing to accept as his hire. In all pastoral countries, and even in some parts of Britain, an arrangement resembling this is to be met with. Individuals which differ from the general flock, are allowed to fall to the shepherd. In this case black sheep, or such as were distinctly marked with black spots, and white goats, or such as bore large patches of white, were to fall to Jacob. The presence of the black made the sheep spotted, and the presence of the white made the goats speckled; and when the white on the goats assumed shades which seemed as if melting into black, they were characterized as both "spotted and speckled."

Varieties of the kinds now alluded to prevailed to some extent already among the flocks. They were, however, exceptions. These were separated from the general flock, put under the care of Laban's sons, and sent to pasture at a distance from the main flocks under Jacob's care. This arrangement was evidently not anticipated by Jacob. He was willing that they should be picked. But he had not counted on the removal of the spotted and speckled varieties from the sight of the sheep and goats fed by him. This consideration must be kept in view, otherwise the device to which Jacob had recourse cannot be understood. The arrangement was one between two very shrewd and clever men, in which it was clearly the highest wish of each to overreach the other. Laban, equally with Jacob, understood the accidents which led to these variations. Thus when he so readily acquiesced in Jacob's proposal, he determined that the bargain would be as little fruitful to his nephew as possible. He believed that the cause of the increase in the "spotted and speckled" cattle was, that there were so many of this description already among the flocks. By removing them from those marked according to their nature, he knew the increase of these varieties would be greatly limited. Jacob's device was fallen upon with the view of making up for this. "He took him rods of green poplar, and of the hazel and chestnut-tree, and pilled white

strakes in them, and made the white appear which was in the rods. And he set the rods which he had pilled before the flocks in the gutters in the watering-troughs, when the flocks came to drink, that they should conceive when they came to drink. And the flocks conceived before the rods, and brought forth cattle ring-straked, speckled, and spotted" (ver. 37–39). He had thus found the power of his expedient, and could henceforth afford to profit even by the separation which Laban had relied on as so profitable to himself; "Jacob put his own flocks by themselves" (ver. 40). This scheming was very far from creditable to either party. It is indeed true that Jacob afterwards spoke of the results as evidences that the "God of his fathers had been with him" (xxxi. 5), and ascribed his prosperity to the fact, "that God had taken away Laban's cattle and given them to him" (xxxi. 9), but there is nothing more in this than the recognition of God's goodness to him in providence. It does not imply, as many have averred, that the varieties were brought about in any other than a natural way. There is thus not much ground for Fuller's remark, which may be quoted as illustrative of a numerous class—"The measure which Jacob took to obtain the best of the cattle, would at first sight appear to be selfish and disingenuous; and if viewed as a mere human device, operating according to the established laws of nature, it would be so: but such it was not. I believe it will not be pretended that any other person has since made the like experiment with success. It must therefore have been by a special direction of God, that he acted as he did." No apology can be made for Laban's selfishness, but just as little can Jacob's devices be vindicated. God, indeed, undertook for him, and overruled all for his good, but this did not imply that he had acted under the special direction of God in this matter.

Some acquaintance with the influence of circumstances on the lower animals at breeding time, sheds much light on this transaction. For example, I have known among sheep a black wether, when pastured at the breeding season with a white flock, show its influence over some of the females to such a degree as to add to the flock several lambs marked with black, and even one or two wholly black. In pheasant preserves the influence of a white domestic fowl, when shut up with them, is acknowledged in making the plumage of one or more of the young pheasants much lighter than it would otherwise have been; and there are cases on record, in which, in breeding horses, it has been found that the first male brought to the female has so impressed her, that his colour made its appearance in all her after foals by males of a wholly

different colour. It would be out of place to dwell here on this. These cases are mentioned in the hope, that they will indicate the nature of the expedient to which Jacob had recourse in order to enrich himself from the flocks of Laban. The term "ring-straked" is applied to white bands on the limbs or necks of the goats, and to black or brown bands on those of the sheep. The zebra is neither spotted nor speckled, but ring-straked.

The rods employed by Jacob were said to have been taken from the poplar (see under Hos. iv. 13), the hazel, and the chestnut-trees. This

Fig. 103.

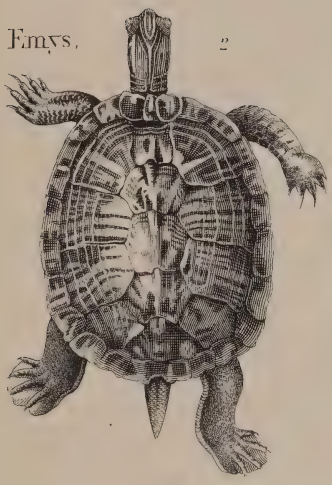
Plane-tree (*Platanus orientalis*).

is the only passage in which the hazel (*luz*) is mentioned, and some have questioned the correctness of the translation both of *luz* and of *armon*, rendered here and in Ezekiel xxxi. 8, "chestnut-tree." Dr. Shaw early called attention to this (Travels, vol. i., 266). In the Vulgate it is taken as the almond-tree (*Amygdalus communis*). There are, nevertheless, several important objections to the proposed change from hazel (*Corylus avellanus*) to almond. Another word is usually applied to the almond (*shaked*). Besides, it is not the least likely that a tree of such value would be so frequently spoiled in order to supply the rods fresh and green, as must have been the case, if they were

Testudo. 1

T. Graeca. Common Tortoise

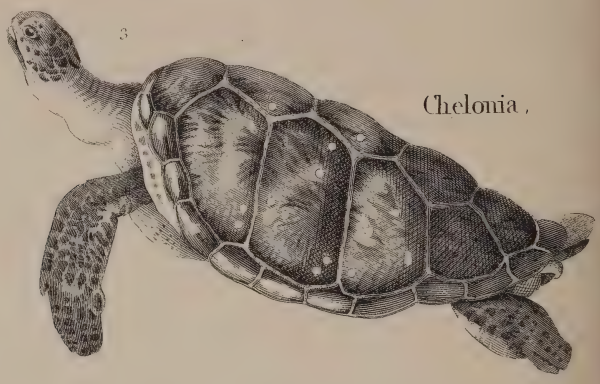
Emys. 2



E. scripta. Written Tortoise.

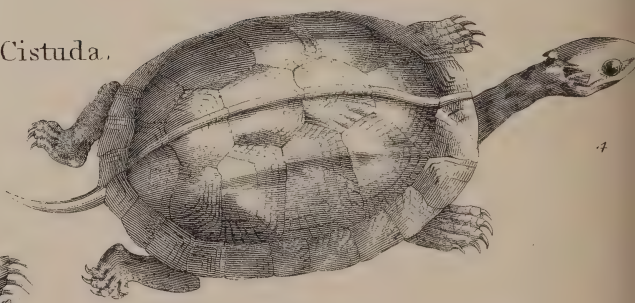
3

Chelonia.



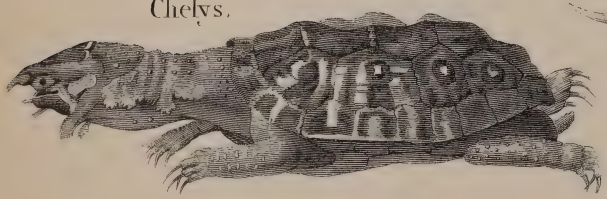
Chel. *virgata. Striped Tortoise*

Cistuda. 4



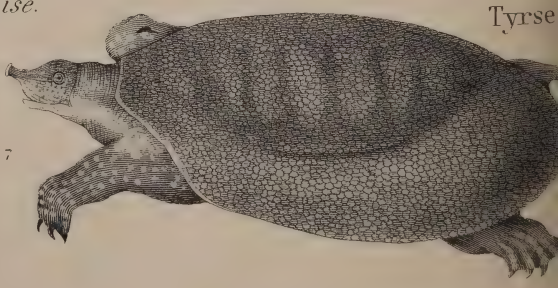
C. trifasciatus. Three striped Box Tortoise

Chelys. 5



Chelys. *Matamata. Matamata or Fimbriated Tortoise.*

Tyrse



7

T. Niloticus. Nilotic three toed Tortoise

6

Elongation of the snout

THE TORTOISE AFTER HIS KIND.—Lev. xi. 29.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON & NEW-YORK.

frequently renewed. It has been said that there is another word used for the hazel (Song vi. 11), in which the term *egoz* is held to refer to the hazel nut. In the same place Dr. Shaw answers this. He says—"What has been rendered nuts should have been specified, and called wall-nuts; the Hebrew *egoz* and the Arabic *jeuz* being the same." But while hazel should be retained in this passage the rendering of *armon* by chestnut cannot. It is much more appropriately rendered plane-tree (*Platanus orientalis*), a species ranked under the natural order *Platanaceæ*. The chestnut was not likely to be found in such situations as are indicated here as the scene of this transaction. Moreover, the description of the *armon* by Ezekiel, answers much better to the plane than to the chestnut tree.

Camels are mentioned in verse 43 as constituting part of Jacob's wealth. They are also named in chapter xii. 16, among the riches of Abraham. Two words are employed in Scripture for camels. These are *ahhashteranim* and *gamal*. The former occurs only twice, and its use is limited to the book of Esther; the latter is the term usually employed. It occurs fifty-four times in the sacred books. When the dromedary is noticed, other words are used—as *becker* (Isa. x. 6, and Jer. ii. 23); *reckesh* (1 Kings iv. 28), in other passages it is rightly rendered mules; and *ramack* (Esth. viii. 10), where we have "young dromedaries employed to carry "the letters by posts." (See Plate XXXVI. 3.) The varieties referred to in the distinction between camel and dromedary, and also the uses made of these animals and their habits, are pointed out under Judges vi. 5: which see.

GENESIS XXXI.

THE bargain between Laban and Jacob in regard to the flocks, had turned out wholly in favour of the latter. The natural means to which Jacob had recourse to influence the flocks, had been so successful, that Laban was startled: "Jacob beheld the countenance of Laban, and, behold, it was altered towards him" (ver. 2). The continuance of the agreement depended on the will of the uncle, whose efforts were now directed to check the increase of his nephew's flocks, by altering the terms of the bargain. "Jacob called Rachel and Leah to the field unto his flock (ver. 4), and said unto them, Your father hath deceived me, and changed my wages ten times" (ver. 7). This oppression and deceit appear to have cast Jacob more unreservedly on God, whose favour is again most emphatically acknowledged. The angel of God himself (ver. 11) undertook for Jacob—"I have seen all that Laban doeth unto thee" (ver. 12). In verses 10 and 12 a new word is used with reference to the varieties among the members of Laban's flocks, namely, *grisled*—"the cattle were ring-straked, speckled, and grisled." This word is used only in this place and in Zechariah vi. 3, 6. It is highly expressive. Derived from the Hebrew word for "hail" (*barad*), it indicates that the cattle were marked like the black soil when a slight shower of hail has fallen on it. Thus the grisled horses mentioned by Zechariah are noticed as intermediate between the black and the white varieties: "The black horses go forth into the north country; and the white go forth after them; and the grisled go forth toward the south country."

God made himself known to Jacob, as he had done to his fathers, in the character of a covenant-keeping God. "I am," he said, "the God of Beth-el where thou anointedst the pillar, and where thou vowedst a vow unto me; now arise, get thee out from this land, and return unto the land of thy kindred." The season at which he left Mesopotamia is to be inferred from verse 19. It was when "Laban went to shear his sheep." This process takes place in Britain when the warm weather has fully set in—generally in the beginning, or about the middle of June. At this time the strong growth of the new crop of wool has

begun to loosen the old fleece, and it answers both the sheep-master and the flocks likewise to have the old covering removed. In the locality in which Jacob at this time sojourned, the operation must have been gone through at least a month or six weeks earlier. The time was well chosen for getting away from Laban.

As with Israel in later times, it appears from the direct reference to the custom here, that the period of sheep-shearing was one of great note among the people. When David wandered amidst the wilds of Carmel, he came upon the shearers of Nabal's sheep, and Nabal could say—"Shall I then take my bread, and my water, and my flesh that I have killed for my shearers, and give unto men whom I know not whence they be?" (1 Sam. xxv. 11.) The season was generally one of much festivity. Thus Absalom invited all the king's sons to join his "sheep-shearers in Baal-hazor, which is beside Ephraim" (2 Sam. xiii. 23). In such circumstances Jacob fled from the place of his sojourn, and, at the command of God, turned his face in the direction of Canaan. Laban and his household would all be too busy to notice Jacob's preparation for departure. "And Jacob stole away unawares to Laban the Syrian, in that he told him not that he fled. So he fled with all that he had; and he rose up, and passed over the river, and set his face toward the mount Gilead" (ver. 20, 21). He had passed the Euphrates, had left the eastern plain of Damascus behind him, and had entered, from the north-east, the tract lying on the east of Jordan, where in former days the gigantic Zuzim had dwelt. In Gilead or Galeed, he was overtaken by Laban. "Gilead," see under Jer. viii. 22.

In the altercations which took place when Laban and Jacob met, the latter says, after mentioning other grounds of self-justification—"the rams of thy flock have I not eaten" (ver. 38). Rams are first mentioned in Genesis xv. 9, where, as here, reference is made to their use. Under Genesis xxii. 13, the distinction between the he-goat and the ram has been pointed out. The *Ayil*, or Ram, is named one hundred and seventy-three times in Scripture. A classification of these passages shows (1) that the word is used to indicate the "entire" sheep, as an animal used in sacrifice. Thus employed it is spoken of as "the ram of consecration" (Exod. xxix. 22, 27, 31)—the ram set apart for holy uses in the service of the sanctuary. It was used also as "the trespass-offering" (Levit. v. 16), and as "the burnt-offering" (Levit. xvi. 3). (2) It was then as it is now killed by the people for food, and held a chief place in the flocks of the wild Arabian tribes, who were wont to drive them for sale to the populous cities within reach. Thus of Tyre

it is said—"Arabia, and all the princes of Kedar, were occupied with thee in rams: in these were they thy merchants" (Ezek. xxvii. 21). (3) The ram supplied the skins which were used in the furniture of the tabernacle, and which, indeed, are still much employed in the East for industrial purposes. In Exodus xxv. 5, they are characterized as "rams' skins dyed red." "There is a definiteness in the name rams' skins which is worth noticing. From time out of mind the southern part of Syria and Palestine has been supplied with mutton from the great plains and deserts on the north, east, and south, and the shepherds do not ordinarily bring the females into market. The vast flocks which annually come from Armenia and Northern Syria are nearly all males. The leather, therefore, is literally rams' skins dyed red." (4) The word ram is used in Hebrew poetry and prophecy in a figurative sense. One example of this has been given (Gen. xxii. 13). An illustration of the poetical use of the word occurs in Ps. cxiv. 1, 4, 6:—

"When Israel went out of Egypt,
The house of Jacob from a people of strange language,
The mountains skipped like rams,
And the little hills like lambs.
What ailed you,
Ye mountains, that ye skipped like rams;
And ye little hills, like lambs?"

The gladness of the flocks, pasturing in sunshine and amidst plenty, is ascribed to the mountains and little hills themselves, and the material earth itself is represented as rejoicing in the presence of God's mighty acts in behalf of his people. The picture is as true to nature as it is beautiful.

The use of the word in prophecy has its chief illustration in the Book of Daniel:—"I saw in a vision, and I was by the river of Ulai. Then I lifted up mine eyes, and saw, and, behold, there stood before the river a ram which had two horns: and the two horns were high; but one was higher than the other, and the higher came up last." The Divine One who stood before the prophet "as the appearance of a man," gave him the interpretation of the symbol. The ram which thou sawest having two horns are the kings of Media and Persia (Dan. viii. 3, 20).

The rams of Bashan were noted so early as the time of Moses. In the hymn in which, at the close of his eventful life, he celebrates, "in the ears of all the congregation of Israel," the Lord's goodness, long-suffering, love, and exceeding grace, he tells how God had given them

"the honey out of the rock, and oil out of the flinty rock, butter of kine, and milk of sheep, with fat of lambs and rams of the breed of Bashan (Deut. xxxii. 13, 14).

In verse 40 Jacob describes his self-denial and suffering while in the service of Laban:—"In the day the drought consumed me, and the frost by night." Folds could not be provided in sufficient numbers over the wide area in which he fed the numerous flocks, into which they might be driven at night; and the grateful shade from the burning rays of the summer sun would be seldom at hand. But the circumstances which surrounded him — especially the presence of beasts of prey (ver. 39) — made it necessary that the flocks should be carefully watched. The rapid alternations of heat and cold—drought and frost—which characterize the climate of Western Asia, would thus fall upon him with unmodified severity. In Mesopotamia this would be even more felt than in Palestine. Yet in the latter country, and in the region bordering on it, the changes from the heat of the day to the severe cold of night are noticed by all travellers. Glimpses of this are given us again and again in the Bible. Thus Ps. cxlvii. 16–18:—

> "He giveth snow like wool:
> He scattereth the hoar-frost like ashes.
> He casteth forth his ice like morsels:
> Who can stand before his cold?
> He sendeth out his word, and melteth them."

In Aleppo the range of the thermometer is known to be from below zero to 100° Fahr. The prevalence at certain seasons of a cold north wind at night, and intense heat during the day, are specially trying for all habitually, or even occasionally, exposed to them. In winter, when the cold is severely felt, it is not uncommon to have days in which the thermometer reaches to 86° or 88° Fahr.

The meeting between Jacob and Laban forms a fruitful theme for remark. Only one feature of it comes under our notice, as indicating that the branch of Terah's household which had migrated to Canaan, had begun to differ from that one which had remained in Mesopotamia, both in language and in customs. "Now therefore come thou, let us make a covenant, I and thou; and let it be for a witness between me and thee. And Jacob took a stone, and set it up for a pillar. And Jacob said unto his brethren, Gather stones; and they took stones, and made an heap; and they did eat there upon the heap. And Laban called it Jegar-sahadutha: but Jacob called it Galeed. And Laban

said, This heap is a witness between me and thee this day. Therefore was the name of it called Galeed and Mizpah." When Jacob performed his part, and gave outward expression to his sincerity in the covenant, by setting up a memorial stone, he called the place in pure Hebrew language *Gal-ed*, or "the monumental witness." Laban called the heap of stones which his sons, when urged by Jacob, had piled up, *Jegar-sahadutha*, the Aramaic, or Syrian, equivalent of Galed, meaning "the heap of witness." Jacob's witness was one stone, Laban's was a heap of stones, or a *cairn*. Had Abraham and Isaac in their contact with Egypt, copied from the people in the valley of the Nile the practice of commemorating great events by the erection of a huge stone? The more rude and simple method of piling a number of stones on each other, in order to the same end, was had recourse to by Laban's sons. This difference of custom long continued. When the influence of the civilization long realized in Egypt began to tell on both east and west, we see the rude heap, or cairn, everywhere giving place to the tall, upright memorial stone. Yet another name is introduced to signalize this event. Jacob called the place "Mizpah," or the watch-tower, "for he said, May the Lord watch between me and thee, when we are absent one from another" (ver. 49).

While such transactions shed light on the nameless monuments which the antiquary meets with in every land, his researches have, in their turn, been found helpful in enabling us to form a generally correct estimate of the Scripture incidents which led to the erection of such memorial stones.

The memorial stones mentioned in the Bible may be named under the following heads:—1. Stones set up by individuals to bear witness to the sincerity of their vows. Such was the stone set up by Jacob at Bethel "for a pillar"—"And Jacob vowed a vow, saying, If God will be with me, and will keep me in this way that I go, and will give me bread to eat, and raiment to put on, so that I come again to my father's house in peace, then shall the Lord be my God: and this stone, which I have set for a pillar, shall be God's house: and of all that thou shalt give me, I will surely give the tenth unto thee" (Gen. xxviii. 20–22). 2. Stones erected to commemorate solemn national engagements, or covenanting. Thus when Joshua, in his last meeting with the tribes of Israel, led the people to enter into a sacred covenant of steadfastness to God, he set up a stone as a witness to the transaction—"And the people said unto Joshua, The Lord our God will we serve, and his voice will we obey. So Joshua made a covenant with the people that day,

and set them a statute and an ordinance in Shechem. And Joshua wrote these words in the book of the law of God, and took a great stone, and set it up there under an oak that was by the sanctuary of the Lord. And Joshua said unto all the people, Behold, this stone shall be a witness unto us; for it hath heard all the words of the Lord which he spake unto us: it shall be therefore a witness unto you, lest ye deny your God" (Josh. xxiv. 24–27). 3. Stones raised as memorials of friendship, and as witnesses to bargains between man and man. The incident now under notice illustrates this. 4. Stones set up to commemorate great interferences of the Lord on behalf of his people. The successor of Moses having led the people over Jordan, in the midst of the wondrous doings of Jehovah, "said unto them, Pass over before the ark of the Lord your God into the midst of Jordan, and take you up every man of you a stone upon his shoulder, according unto the number of the tribes of the children of Israel: that this may be a sign among you, that when your children ask their fathers in time to come, saying, What mean ye by these stones? Then ye shall answer them, That the waters of Jordan were cut off before the ark of the covenant of the Lord; when it passed over Jordan, the waters of Jordan were cut off: and these stones shall be for a memorial unto the children of Israel for ever" (Josh. iv. 5–7). Of this kind also is that referred to in 1 Samuel vii. 12—"Then Samuel took a stone, and set it between Mizpeh and Shen, and called the name of it Ebenezer, saying, Hitherto hath the Lord helped us." 5. Stones erected as memorials of the dead. "Rachel died, and was buried in the way to Ephrath, which is Bethlehem. And Jacob set a pillar upon her grave: that is the pillar of Rachel's grave unto this day" (Gen. xxxv. 19, 20). Each of these uses might be very fully illustrated from the fruits of recent antiquarian research. But one remark must suffice. As the cairn-building spread to the south-east, the loose stones gave place to masses of solid masonry, reared for like purposes, and wholly destitute of rooms, like those which to this day are to be met with in Ava. "The temple of Hommodoo," says Major Syme, in his "Narrative of the Embassy to Ava," "is composed of solid masonry, without cavity of any sort, and in shape resembles a bell." Some of the solid mounds recently discovered between the Euphrates and Tigris are most likely the remains of such masses. The erection of memorial piles, as the early postdiluvian people spread themselves towards the west and north-west, assumed forms which find their best illustrations in the obelisks of Egypt and the "bautastanes" of Scandinavia.

GENESIS XXXII.

AS Jacob journeyed towards Canaan, "the angels of God met him." Circumstances not recorded made a deep impression on his mind. When he saw the angels, he said, "This is God's host; and he called the name of that place Mahanaim," or the Double Camp. "Mahanaim," see under 1 Kings iv. 14. After true Eastern fashion, he sends messengers before to apprise Esau of his approach to Edom. The attitude of Esau was reported by the messengers to be hostile. This led Jacob to lay his case before God, and to fall on several expedients to turn away his brother's anger. These were the messages sent from a distance and the costly presents to Esau. In the presents were "two hundred she-goats and twenty he-goats, two hundred ewes and twenty rams, thirty milch camels with their colts, forty kine and ten bulls, twenty she-asses and ten foals" (ver. 14, 15). "Camels," see under Judg. vi. 15; "kine" and "bull," Gen. xli. 2–4; "asses," Ps. civ. 11.

Meanwhile the distance between the brothers was becoming less day by day; and Jacob, who had now reached the Jabbok, which, rising in the mountains of Bashan, runs west to the Jordan and falls into it opposite Shechem, entered into earnest thought as to his prospects. When seeking fellowship with God, "he was left alone; and there wrestled a man with him until the breaking of the day." In the might of simple faith, Jacob strove with the Divine One, who had, in the form of a man, met him on the banks of the Jabbok. "He wept, and made supplication to the angel" (Hos. xii. 4). "He said, I will not let thee go, except thou bless me. And he said unto him, What is thy name? And he said, Jacob. And he said, Thy name shall be called no more Jacob (deceiver, supplanter), but Israel (a warrior-prince of God), for as a prince hast thou power with God and with man, and hast prevailed" (ver. 27, 28). The struggle left its mark upon the purely human combatant in a dislocated thigh—"He touched the hollow of his thigh, and the hollow of Jacob's thigh was out of joint, as he wrestled with him" (ver. 25). The narrative is as rich in spiritual encouragement to every reader whose sympathies have been brought into relation with the gracious thoughts of God, as it is sug-

gestive of much which must ever continue to appear mysterious in the divine procedure with man. Such questions as, "Could the angel not have subdued his human antagonist without this device?" are wholly beside the matter here. We are made acquainted with certain facts in the ways of God with man, mysterious to us, which may not, however, have been regarded in the same light by him who was chiefly interested in them. It should be sufficient, both for our knowledge and faith, to discover in the incident of the wrenched thigh, another illustration of the sovereignty of God over the bodies as well as over the souls of his people. But more, this transaction was to have a strongly marked influence on Jacob's posterity, and the provision is made for this when the divine hand is laid on Jacob's thigh. The first effect of the touch of the Angel of the covenant was to put the hollow of Jacob's thigh out of joint. In human anatomy the hollow is the cup-shaped cavity (*acetabulum*) into which the round head of the thigh-bone (*femur*) fits. This would necessarily interfere with the natural tension of the muscles of the thigh, and especially with the fourfold set of muscles (*quadriceps extensor femoris*) which originate about the head of the thigh. The full influence of this dealing was felt in the abnormal contraction of these muscles when Jacob set out to join his household—"As he passed over Penuel the sun rose upon him, and he halted upon his thigh. Therefore the children of Israel eat not of the sinew which shrank, which is upon the hollow of the thigh, unto this day: because he touched the hollow of Jacob's thigh in the sinew that shrank" (ver. 31, 32). "When he felt pain," says Josephus, referring to this incident, "upon his broad sinew, he abstained from eating that sinew himself afterwards, and for his sake it is still not eaten by us" (Antiq. i. xx. 3). Thus Israel is still kept in mind of Peniel where Jacob saw God face to face.

The Jabbok is now named Wady Zurka. "It cuts through the mountain range in a winding course from east to west, and enters the Jordan nearly midway between the Sea of Galilee and the Dead Sea. It receives numerous tributaries in its passage through the mountains, which not only make its stream perennial, but often during the winter impassable. The ravine through which it flows is narrow, deep, and in some places wild. Throughout nearly its whole course it is fringed by thickets of cane and oleander, and the large clustering flowers of the latter give it a gay and gorgeous appearance during the spring months."—(*Porter.*)

GENESIS XXXIII.

JACOB had left Laban when he and his household were in the midst of the bustle and festivities of the sheep-shearing season (xxxi. 19). This, we have seen, affords a pretty correct evidence of the period of the year at which he set out. In the beginning of his journey, the days even of his travel are particularly noticed. Thus, "It was told Laban on the third day that Jacob was fled. And he took his brethren with him, and pursued after him seven days' journey" (xxxi. 22, 23). It is very doubtful whether we are warranted to conclude, that Laban set out either on the third or fourth day. Though Jacob had a clear start of three days, that would not put a great distance between him and his uncle, when it is remembered that Jacob travelled with all the encumbrances of a large household, and with numerous flocks and herds. But Laban was unincumbered, and would be able to travel as fast again as his nephew. It is true he overtook him in Mount Gilead; but if this name be taken to indicate generally the chain which stretches from the top of the Dead Sea north to the Sea of Galilee, throwing off outliers into the district of Bashan, its north-eastern limits would be reached by Jacob much sooner than the central spot bordering on the Jabbok.

There must have been longer time spent in the journey from Haran than at first sight appears. Two circumstances mentioned in this chapter show this, if we bear in mind that the time of his departure from Laban was when the Syrian was engaged shearing his sheep. The first of these is the apology made to Esau for not travelling so rapidly as he could do—"And he said unto him, My lord knoweth that the children are tender, and the flocks and herds with young are with me; and if men should overdrive them one day, all the flock will die" (ver. 13). It is only late in the autumn when the flocks are in the condition described. The other circumstance is the erection of booths—"And Jacob journeyed to Succoth, and built him an house, and made booths for his cattle: therefore the name of the place is called Succoth"—*booths* (ver. 17). This showed that winter was approaching, and that preparations needed to be made for the protection of his household and flocks from the colds of that season. The period which had elapsed,

then, between the day when he left Laban and that on which he arrived at Succoth, extended from the season of sheep-shearing till the beginning of winter.

When he ultimately arrived at Shalem, he bought a piece of ground from the Shechemites; and on it he erected an altar to God, whose might had hitherto delivered him, and whose love had never changed towards him. Thus the significance of the name *El-elohe-Israel*—the "all-powerful God of Israel." In naming the price paid for the ground, it is said that he bought it for an hundred pieces of money—or an hundred *kesitahs*. This word is used only in other two passages. One of these (Josh. xxiv. 32) is simply a repetition of this passage. The other occurs in Job xlii. 11, when "the Lord turned the captivity of Job, and when his brethren came to comfort him," and "every man also gave him a piece of money (*kesitah*), and every one an earring of gold." In chapter xiii. Abraham's wealth is represented as consisting "in cattle, in silver, and gold." Would the medium of exchange noticed here be included under the general description "silver and gold," as the sheep and oxen, the camels and asses, were included in the general term "cattle?" What was the *kesitah?* It is worthy of notice, that in both passages in which the word occurs, others besides the Abrahamic branch of the Semites are chiefly interested in it. It is paid to the Shechemites as valuable to them. It is given to Job as something of value in the land in which he lived. This may warrant the derivation of the word from an Arabic root, to distribute or divide. The fact that the *kesitah* did not pass into a current medium of exchange among Jacob's descendants is also not without meaning. In the passages in which this word occurs our translators have not only rendered it by "pieces of money" in the text, but they have also added "lambs" as the alternative rendering in the margin. This fact has mainly led me to notice the word. Its Arabic root is suggestive of the custom of breaking up or distributing, as a flock is when the lambs are separated from it. From this it may have taken its name, even as the Roman word for money (*pecunia*) was taken from the outline of the ox, the representative of cattle (*pecus*), which it bore, its having come in the place of cattle, which were originally the medium of exchange. "If the field in Machpelah, acquired by Abraham for four hundred shekels (xxiii. 16), was equal in value to the piece of ground purchased by Jacob for one hundred kesitahs, one kesitah would be equivalent to four shekels, or about ten shillings and sixpence." This is the nearest guess which can be made as to its value.

GENESIS XXXIV.

NOT a little profitless speculation has been linked up with this chapter, especially with reference to the age of Jacob's daughter by Leah, Dinah. It is clear from chapter xxx. 21–24, that Dinah was born about the same time as Joseph. But attempts have been made by some German critics to make out, that Dinah could not at this time have been more than from three to five years of age! The question is easily settled. Jacob's sojourn in Haran lasted twenty years. Fourteen of these were given to Laban for his two daughters. After the birth of Joseph, he set his mind on leaving Laban. "Send me away," he said, "that I may go unto mine own place and to my country" (xxx. 25). After this he remained other six years with his uncle—"I served thee fourteen years for thy two daughters, and six years for thy cattle" (xxxi. 41). Joseph must thus have been about seven years old when he reached Canaan. In chapter xxxvii. 2, we are informed that Joseph was seventeen years old when the circumstances occurred which led to his being sold to the Ishmaelitish merchants. "But," as Kurtz well remarks, "the only transaction intervening in point of time between the seduction of Dinah and the selling of Joseph was the journey from Shechem to Beth-el, and from thence to Mamre." Dinah must thus have been fifteen or sixteen years old at this time, or two or three years beyond the age of the puberty of females in the East.

The only other topic which calls for notice in this chapter is the enslaving of the women and children of the Shechemites, who were slain in such a treacherous manner by Jacob's sons. The presence of foreign slaves in the households of the patriarchs has already been noticed—in the cases of Hagar and Eliezer of Damascus, for example. This incident is the first in which the chosen seed are seen acting on the principles current among the nations around them, by reducing, after the manner of conquerors, a subdued people to captivity. "As formerly the deceit of Jacob, so now the iniquity of his sons, is, in the hand of Him who directs all things and knows to subordinate to His purposes even the sins of man, made the means for cutting the knot which human perverseness had made. As the cunning of Jacob forms a pro-

totype of the future national character, so now also the carnal pride of the sons in their pre-eminence over the heathen indicates one of the main characteristics of the Jewish people at a later period. In this respect O. v. Gerlach aptly remarks—'A history like this brings typically before us all the aberrations caused during the course of history, when the belief in the high pre-eminence of Israel was in a carnal manner cherished by carnally-minded men. The feeling that they were the sons of Jacob, the chosen race, that any violation of their honour must be more terribly revenged than in the case of others, and that not even submission to the rite of circumcision could atone for it, appears to have mainly influenced the conduct of the sons of Jacob.' Especially does it manifest itself in the later history of the tribe of Levi, how this mixture of holy and of carnal zeal had descended from the ancestor to his posterity, and at the same time most strikingly does it appear how successfully the training of God tended towards converting the natural character of this tribe, sanctifying the fire of its calling, and consuming the dross by discipline and punishment, by patience and mercy (comp. Exod. ii. 12, xxxii. 26–28; Lev. x. 3; Num. xvi.; Deut. xxxiii. 9)." —(*Kurtz.*)

GENESIS XXXV.

THERE is no special reason to follow thus the spiritual history of Jacob. The subjects, however, which claim notice cannot be examined without having before us the leading steps in that history. The cruel treatment of the Shechemites brought the patriarch and his household into circumstances of great danger. They were as an handful compared to those with whom the "house of Shechem" must have been allied. Thus Jacob's dread—"the Canaanites and the Perizzites shall gather themselves together against me, and slay me; and I shall be destroyed, I and my house" (xxxiv. 30). In his difficulties he was met by the direct command of God—"Arise, go up to Beth-el and dwell there; and make there an altar unto God, that appeared unto thee when thou fleddest from the face of Esau thy brother" (ver. 1). He had long before promised to do this, but the consciousness that his household were not in a moral condition in harmony with such an act, had kept him from hastening on to Beth-el to fulfil his promise, to pay his vow unto the Lord. Nor does he seem to have had courage to set about the reformation of his household, until his drooping spiritual life was revived by this direct command from God. Then it was that he said, "Put away the strange gods that are among you, and be clean, and change your garments: and let us arise, and go up to Beth-el; and I will make there an altar unto God, who answered me in the day of my distress, and was with me in the way which I went" (ver. 2, 3). His household had fallen into, and were in the habit of practising the superstitious rites of heathen idolatry. The use of charms prevailed in the region in which Laban dwelt, and these practices had continued among those whom Jacob had brought with him from Mesopotamia. The strange gods were worshipped, and the earrings were worn as amulets. The latter practice prevails in the same locality at this day. The idols and the earrings were brought to Jacob, and "he hid them under the oak (*elah*) which was by Shechem" (ver. 4).

I have pointed out, under Gen. xiii. 18, that the term here translated oak frequently means the terebinth, or turpentine-tree, as in Isa. vi. 13,

where it is opposed to the usual word for oak. But its occurrence in this passage leads to yet another conclusion. In the same place it has been shown, that the two forms of the Hebrew masculine for oak, *elon* and *allon*, are interchangeable, and it is now to be noticed that the feminine forms, *elah* and *allah* are interchangeable also, and even that the tree named here as the *elah*, is in Judges ix. 6 the *elon*. These considerations show that the oak, and not the terebinth, as many have alleged, was the tree under which Jacob buried the idols and the earrings. We have thus—"the oak (*elah*) which was by Shechem" (ver. 4), "the plain, literally oak (*elon*), of the pillar that was in Shechem" (Judg. ix. 6), and "Joshua set them an ordinance and a statute in Shechem. . . . . And took a stone, and set it up under an oak (*allah*), that was by the sanctuary of the Lord." The passage from Judges shows that the transaction referred to here came to be associated with the tree in after times; the true translation of the words rendered "oak of the pillar" being "oak of the sorcerers," from the instruments of sorcery having been buried under it.

The act itself is not without interest to the antiquary. May not the treasure trove, often consisting of objects which must have been used in the service of idols, which has again and again been discovered by the uprooting of trees, have been deposited in their place from motives similar to those which led Jacob to bury the idols and amulets of his household? At the present day, when heathen tribes are turned to the Lord, it is common for them to bury their idols out of sight, though these, in some instances, may be of considerable value.

In verse 8, the oak (*allon*) is again mentioned. "Deborah, Rebekah's nurse, died, and she was buried beneath Beth-el under an oak; and the name of it was called 'the Oak of Weeping' (Allon-Bachuth)." Rebekah had promised, when she urged Jacob to flee to Laban her brother at Haran, that she "would send and fetch him from thence" (xxvii. 4, 5). Does this explain the presence of Deborah in the household of Jacob at this time?

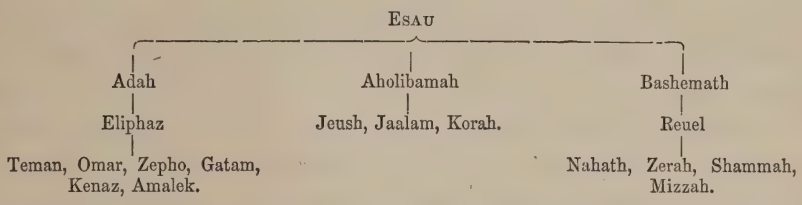
Verses 17–20 contain the narrative of the birth of Benjamin and the death of Rachel his mother. Though mothers were generally the assistants of their daughters at the time of child-birth, at a very early period a skilled female assistant appears to have been employed. Such was the midwife who attended Rachel, and such were the women, mentioned in Exodus i., in connection with the oppression of the Israelites. The references to women who performed the functions of the "*yolad*," or midwife, are confined to the first two books of Moses.

"Rachel was buried in the way to Ephrath, which is Bethlehem" (ver. 19). In verse 21 we meet with Jacob for the first time with the new name which had been given him when he obeyed the command of God, and went and "sacrificed in Beth-el:"—"Israel journeyed and spread his tent beyond *Migdal-Edar*," literally beyond the "Tower of the Flock." It is scarcely to be doubted, that the same locality is referred to in Micah iv. 8—"And thou, O tower of the flock (Migdal-Edar), the stronghold of the daughter of Zion, unto thee shall it come, even the first dominion,"—a passage which is not to be rendered in the literal acceptation of a place, but rather to be regarded as suggestive of a family to whom the dominion was again to be given. Thus its figurative meaning points to Bethlehem, even as the mention of it in this passage does.

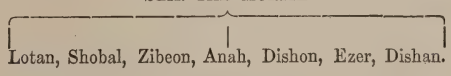
The sons of Isaac met again at their father's deathbed—"And Jacob came unto Isaac his father unto Mamre, unto the city of Arba (which is Hebron), where Abraham and Isaac sojourned. And the days of Isaac were an hundred and fourscore years. And Isaac gave up the ghost, and died, and was gathered unto his people, being old and full of days: and his sons Esau and Jacob buried him" (ver. 27–29).

GENESIS XXXVI.

BEFORE the sacred historian turns away from the story of Isaac's eldest son, and gives himself wholly to the narrative of the events in the history of Jacob and of his descendants, he halts for a moment to glance at the genealogy of Esau. This may be thus arranged by naming the immediate descendants of the three wives of



As both Esau and his sons, especially Eliphaz, were intimately associated with the Horites, the original possessors of Edom, an outline is given of the genealogy of Seir the Horite, whose children the descendants of Esau ultimately destroyed, and not only occupied their land, but adopted their manners likewise:—



The daughters of Seir were admitted to a distinct standing in their father's house, and were reckoned as equal with the sons. Eliphaz had become connected with the Horites by taking Timna, the daughter of Seir's eldest son, to be his concubine (ver. 12, 22). Her son was Amalek, who is generally spoken of as the father of the Amalekites. This, however, is an error. In chapter xiv. 7, the Amalekites are mentioned long before the birth of Amalek, the grandson of Esau. See under 1 Chronicles iv. 43.

"These are the children of Zibeon; both Ajah and Anah: this was that Anah that found the mules in the wilderness, as he fed the asses of Zibeon his father" (ver. 24). This verse has been unnecessarily surrounded with difficulties. Dr. Kalisch and others fall back upon the hypothesis, that the material contained in two primeval documents

has been embodied in this chapter. They conclude that every attempt to clear up the apparent contradictions in these genealogical tables must be vain. But we are not shut up to this conclusion. Take the case of Anah as an example. Esau had three wives, two of whom were Canaanites. The third was an Ishmaelite. One of the first two was Aholibamah, the daughter of Anah and the granddaughter of Zibeon; but it accords with frequent Scripture usage to understand the expression as now rendered, and there is no warrant for the fancy of some, that Anah was a daughter (ver. 2), and not a son, of Zibeon. In Gen. xxvi. 34, the father of one of Esau's wives is named Beeri the Hittite, and Anah is here styled a Hivite. Can Beeri be identified with Anah? The father of the other Canaanitish wife is in both chapters spoken of as "Elon the Hittite." There can be no doubt then as to him. If Anah and Beeri are one, how should Beeri be called a Hittite and Anah a Hivite? Apart from this there need be no difficulty in regarding them as identical. It has been alleged that Hivite in chapter xxxvi. 2, has crept into the text as an error in the transcription, and that Horite was the original word. But, whatever force there may be in this, the difficulty is got quit of by remembering the close relationships between the Canaanitish tribes; and, while Anah as the son of Zibeon was a Hittite—the Horites being Hittite families who had become dwellers in caves—by marriage or by maternal descent, the term Hivite may have been equally applicable to him. I regard Beeri and Anah as one.

In the list of the Horites, Ajah and Anah are spoken of as being both children of Zibeon, and it is added—"This was that Anah that found the mules in the wilderness, as he fed the asses of Zibeon his father" (ver. 24). This verse has naturally much occupied the attention of students of the Scriptures. Its occurrence in a genealogical list, the abrupt way in which it breaks in on the narrative, the difficulty associated with the true meaning of the word rendered "mules," and, to common readers, the question of the superiority of the cross to the pure breed, have all tended to give much prominence to the passage. As usual in such circumstances, the theories of meaning have been almost as numerous as the interpreters. The word for mules, say some, should have been so rendered as to suggest a certain kind of rare vegetable; it should have been translated *Emims*, or giants, say others; a third class believe that it refers to a well of water found in the desert; and a fourth hold that it can only refer to warm springs. The last opinion is that now generally accepted. The derivation of the word (*yemim*) used here gives direct countenance

to this meaning. The discovery, moreover, of such springs as those of Callirhoe, to which reference has already been made, with their highly medicinal waters, was much more likely to be noticed than the interbreeding between the horse and the ass. It is significant also, that the words rightly used for mules in other portions of holy writ have no resemblance to this one. These will be noticed as they occur. This verse then might run—"This is that Anah who found the warm springs in the desert, when he fed the asses of Zibeon his father." They may have been the very same hot springs as those to which Herod went in the hope to be delivered from his loathsome disease (Josephus Antiq., b. xvii., c. vi. 55).

The sixth king of Edom was "Saul of *Rehoboth-hannahar*" (or Rehoboth by the river Euphrates, ver. 37). See above, chapter x. 11, under which the different places named Rehoboth are distinguished.

GENESIS XXXVII

JACOB'S sons failed to follow their father in that path of rich spiritual blessing into which the Lord had led him. At an early date he had, however, begun to find in Joseph a decided leaning to the service and worship of God, and was accordingly drawn much more to him than to his older children. The contrast between Joseph and the sons of Bilhah and Zilpah soon began to appear. Joseph engaged with his brethren in shepherd life (ver. 2), but became a witness against their evil ways—"he brought unto his father their evil report." The father's partiality was shown in making for Joseph a dress such as the children of kings wore—a striped tunic reaching from the neck to the feet. It is said of Tamar—"she had a garment of divers colours upon her: for with such robes were the king's daughters that were virgins apparelled" (2 Sam. xiii. 18). Josephus characterizes this tunic as "a loose coat tied at the hands, and let down to the ankles, that the inner coats might not be seen."—(Antiq., b. vii., c. 8, § 1.) Thus too the dress of *Ulysses*:—

> "In ample mode,
> A robe of military purple flow'd
> O'er all his frame: illustrious on his breast
> The double-clasping gold the king confest."—(*Odyssey*, b. xix.)

"When his brethren saw that their father loved him more than all his brethren, they hated him, and could not speak peaceably unto him" (ver. 4). The original form of expression used here manifestly points to the eastern *salaam*. Shaw refers to this as an illustration of the tenacity with which the orientals cling to the customs of their fathers. These words, he thinks, are equivalent to "They did not give him the *aslem-mah*," or Arabic compliment of peace. "Upon meeting one another," he says, "the Arabs still use the primitive salutation of *salem alekum*, that is, 'Peace be unto you.'" Inferiors, out of deference and respect, kiss the feet, the knees, or the garments, of their superiors; but children, and the nearest relations, kiss the head only. The posture they observe in giving one another the *aslem-mah* is to lay their right hand upon their breast; whilst others, who are more

intimately acquainted, or are of equal age and dignity, mutually kiss the hand, the head, or *shoulder*, of each other.

Joseph's mission, as raised up for a special purpose by the God of his fathers, begins to unfold when he tells his dreams. "He was not intended to receive and to teach any *new religious truth;* his mission was the *physical and material* preservation of his family; he was designed to deliver them from impending want, and to secure for them abodes where they might grow and increase till the moral and political dissolution of the Amorites would enable them to conquer Canaan. Between Jacob and Moses the development of religious truth made no advance; it was sufficient if but the true import of the name *Israel* was preserved among the Hebrews, till they would be capable of fathoming the deep meaning of the sacred and sublime name Jehovah." Some light is indirectly shed upon the occupations of Jacob's household by verse 7. It has been seen that Isaac did not limit himself to the simple nomadic life of pasturing large flocks of sheep, &c. When he reached in the land of the Philistines a place peculiarly favourable to his sojourn, he continued there, "sowed in that land, and received an hundred fold" (chap. xxvi. 12). It was the same with Job—"There came a messenger unto him and said, The oxen were plowing, and the asses feeding beside them; and the Sabeans fell upon them and took them away" (Job i. 14, 15). The vivid picture of harvest occupations embodied in Joseph's first dream, shows that Jacob had not confined himself to mere nomadic life, but, as opportunity occurred, had taken to agriculture.

For the second dream the firmament supplies the imagery—"I have dreamed a dream more; and, behold, the sun and the moon and the eleven stars made obeisance to me" (ver. 9). The shepherd life, like that which Joseph had led with his brethren, has in all climes been found to make those who followed it observant of the "starry heavens." But it is claiming too high astronomical accomplishments for Joseph to allege, that in this dream he refers to the twelve signs of the zodiac when he speaks of the eleven stars. There is not likely any more in the allusion than the comparison of his brethren to stars. There were eleven, and thus "the eleven stars." Thoughts which had filled his waking meditations are reproduced, when the Spirit is about to give him a prophetic view of the relation of superiority he was soon to assume to his family. Accordingly, his brethren having been likened to stars, his father and mother are figured by the sun and the moon. The fact that at this time Rachel was dead does not raise any real

difficulty here. It would be customary at that time, as it has been in all lands since, to speak of the living wife as the mother of all the children. In this case, it may have been Leah, or even Bilhah.

The reference of Josephus to this dream of one of his favourite characters is peculiarly graphic:—"But God, in opposition to their envy, sent a second vision to Joseph, which was much more wonderful than the former; for it seemed to him that the sun took with him the moon and the rest of the stars, and came down to the earth, and bowed down to him. He told the vision to his father, and that, as suspecting nothing of ill-will from his brethren, when they were there also, and desired him to interpret what it should signify. Now, Jacob was pleased with the dream; for considering the prediction in his mind, and shrewdly and wisely guessing at its meaning, he rejoiced at the great things thereby signified, because it declared the future happiness of his son; and that, by the blessing of God, the time would come when he should be honoured, and thought worthy of worship by his parents and brethren, as guessing that the moon and sun were like his mother and father; the former, as she that gave increase and nourishment to all things, and the latter, he that gave form and other powers to them; and that the stars were like his brethren, since they were eleven in number, as were the stars that receive their power from the sun and moon."

The first direct step to the fulfilment of Joseph's dreams was when Jacob sent his favourite child to see "whether it were well with his brethren, and with the flocks," which he believed were being pastured in the rich plain near to Shechem—"So he sent him out of the vale of Hebron, and he came to Shechem. And a certain man found him, and, behold, he was wandering in the field; and the man asked him, saying, What seekest thou? And he said, I seek my brethren: tell me, I pray thee, where they feed their flocks. And the man said, They are departed hence; for I heard them say, Let us go to Dothan. And Joseph went after his brethren, and found them in Dothan" (ver. 14–17). The reference in verse 15 to "the field of Shechem" will be explained under Micah iii. 12. Meanwhile, the removal of the sons of Jacob from Shechem to Dothan deserves particular notice, as in a high degree illustrative of God's special providence over his church and people. The incident seems simple enough when looked at without reference to the after history of Joseph. But when we discover that but for this he would not have been in the way of those "Midianitish merchantmen" who passed Dothan on their journey down to Egypt, we can see what

great events, for the church and for the world, depended upon the shepherd sons of Jacob driving their flocks from Shechem to a place lying in the route of the caravan proceeding to Egypt. There would have been no Ishmaelite traders passing by Shechem to the land of the Pharaohs, where they had a ready market for their slaves. Then we may allow our imaginations to take free scope in trying to realize what would have been the wholly changed after-history of Israel. Joseph's trials in that land where, recording his first experiences, he could say, I heard a language that I understood not (Ps. lxxxi.)—his elevation to the second place in the kingdom—the after-history of Israel there—the raising up of Moses—the deliverance of the Hebrew nation from bondage—the glorious march through the great wilderness—the possession of Canaan—and all the lessons of grace and promises of the Messiah, and preparations for his appearing—were made by God to stand out in connection with that change from Shechem to Dothan. The removal of the flocks by the sons of Jacob was thus one great link in that wonderful chain of incidents to which we have referred, which were guided by God in order to bring out many of his great purposes of grace for the world. I believe it will be found that this feature in the moral government of God is linked up with the lives of most of the men whom he has signally blessed as instruments of good for his church. If we knew them intimately, we might generally find some seemingly trifling incident made use of to introduce them to great acts, and the church and the world to great blessing. The special and particular providence of God has thus its most striking illustrations in what man is ready to overlook as trivial and uninteresting.

The site of Dothan, or the "Two Wells," has been fully identified. "But what," says Dr. Robinson, "most interested us in connection with this fine plain, was a green and well-marked Tell in its south-eastern part (S. 55° E.), at the distance of three or four miles, bearing the name of Dothan. At the southern foot of the Tell is a fountain called el-Hûfireh. Here, then, was the ancient and long-sought Dothain, or Dothan, where the sons of Jacob were pasturing their father's flocks when they sold their brother Joseph to the Ishmaelites of Midian, passing by on their way to Egypt. Eusebius and Jerome place it rightly at twelve Roman miles north of the city of Samaria. Just in that very situation, the name thus still exists in the mouths of the common people—although overlooked by all modern travellers, as not being on any usual road; and especially by the crusaders, who thought they found Dothan at the Khân Jubb Yûsuf, south-east of Safed. R.

Parchi notes it correctly in the fourteenth century. We learned also at Ya'bud that the great road from Beisân and Yez'in (Jezreel) to Ramleh and Egypt still leads through this plain; entering it on the west of Jenin, passing near the well of Kefr Kûd, and bending southwestwards around the hill of Za'bud to the great western plain. It is easy to see, therefore, that the Midianites to whom Joseph was sold, coming from Gilead, had crossed the Jordan near Beisân, and were proceeding to Egypt along the ordinary road. It could not have been difficult for Joseph's brethren to find an empty cistern in which to secure him. Ancient cisterns are very common even now along the roads and elsewhere; and many villages are supplied only with rain water. It may also be remarked of Joseph's brethren, that they were evidently well acquainted with the best tracts of pasturage. They had fed their flocks for a time in the plain of the Mûkhna by Shechem (Nâblus), and had afterwards repaired to the still richer pasturage here around Dothan."

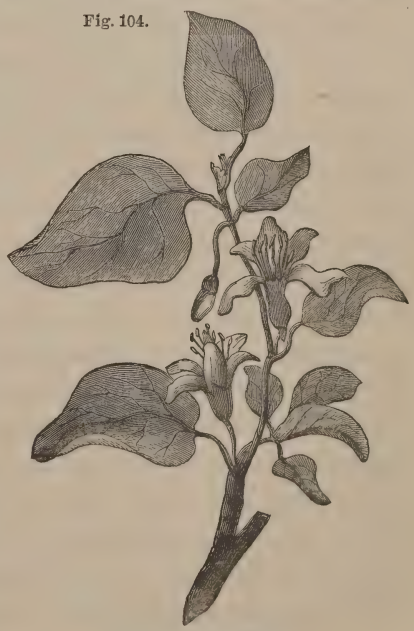
The first intention of the majority of Joseph's brethren was to slay him, but they were diverted from this by the proposal of Reuben to cast him into one of those empty pits, or cisterns, alluded to in the extract given above. Satisfied with themselves for this departure from their murderous designs, "they sat down to eat bread." If Reuben's purpose were to take occasion to set Joseph free, it was soon thwarted. "They lifted up their eyes, and looked, and, behold, a company of Ishmeelites came from Gilead, with their camels bearing spicery, and balm, and myrrh, going to carry it down to Egypt. And Judah said unto his brethren, What profit is it if we slay our brother, and conceal his blood? Come, and let us sell him to the Ishmeelites, and let not our hand be upon him; for he is our brother, and our flesh: and his brethren were content. Then there passed by Midianites, merchantmen; and they drew and lifted up Joseph out of the pit, and sold Joseph to the Ishmeelites for twenty pieces of silver: and they brought Joseph into Egypt" (ver. 25–28). During this transaction Reuben appears to have been absent. Thus his intense grief when he returned —"The child is not, and I, whither shall I go?" That very emotional nature which, uncontrolled, led him into deep guilt (xlix. 4) would lead him to take compassion on Joseph. It is indeed likely that the transaction between his brethren and the Ishmaelites was kept secret from him. He continued to cherish the impression that, after he left them, his brethren had slain Joseph. Thus, when their guilt meets them in Egypt, and, conscience-stricken, they remembered Joseph, it is recorded

—"And they said one to another, We are verily guilty concerning our brother, in that we saw the anguish of his soul, when he besought us, and we would not hear; therefore is this distress come upon us. And Reuben answered them, saying, Spake I not unto you, saying, Do not sin against the child? and ye would not hear; therefore, behold, also his blood is required" (xlii. 21, 22).

The Ishmaelites were carrying down to Egypt "spicery, and balm, and myrrh." The Hebrew *necoth*, rendered here "spicery," occurs in chap. xliii. 11, where it is translated "spices." It is not, as has been alleged, a general term used, as the word "spicery" is with us, to include many different kinds. It is specific, and, equally with the balm and the myrrh, denotes a particular spice. Thus, retaining the original form of the words, the Ishmaelitish merchants were carrying into Egypt *necoth* (spices), *tzeri* (balm), and *lot* (myrrh). Can each of these be fully identified?

1. *Necoth* (= spices).—Two plants may be selected from many named by interpreters as those which supplied the "spicery." Bochart pleads strongly for one of the Storax family (*Styraceæ*), a natural order of plants noted for the aromatic resin which they yield. The common storax (*Styrax officinale*) grows to the height of from ten to twelve feet. It is a native of Syria, and is found flourishing luxuriantly in several parts of the south of Europe. The resin is drawn from the tree by making an incision in the bark. One species of styrax (*S. benzoin*) yields the well-known gum benjamin, which is burnt as incense in Roman Catholic churches. The resin which exudes from the punctured bark, both of the common storax and the gum benjamin tree, is still much used in Asia and in Europe, both as an odour and in medicine. The other plant believed to be that from which the "spicery" was obtained, is the gum tragacanth shrub (*Astragalus tragacantha*), one of the pod-bearers (*Leguminosæ*). This conclusion is drawn from the derivation of the word. The Arabic name for the gum-yielding astragalus points to it as the representative of the

Fig. 104.



Storax (*Styrax officinale*).

so-called "spice-tree." Much more can be alleged in favour of this interpretation than of that of the storax. This plant would be found in abundance in the region through which these merchants passed, as they pursued the caravan route from the extreme north of Palestine to Egypt. It grows in some of the islands of the Levant, and is to be met with in the south of Europe.

2. *Tzeri*, balm.—Doubt may exist in regard to the nĕcōth, but little, if any, should be associated with this, because the grounds of identification are much more sure. Nevertheless, many interpreters continue to surround it with uncertainty. This results from regarding it in the light of references made to it by ancient writers, who took little pains to determine the group even of the balm-yielding trees. In this notice I shall look, first, at those passages of Sacred Writ in which the word *tzeri* occurs, and, second, at the opinions of profane writers regarding it.

The first mention of balm is made in the verse now under notice. Here it is simply spoken of as an article in which the Midianite merchantmen of the caravan from Gilead to Egypt traded. In the next passage we have more information. When Jacob gave his reluctant consent to his sons to make a second visit to Egypt, during the famine, he said—"Take of the best fruits in the land in your vessels, and carry down the man a present, a little balm, and a little honey, spices and myrrh, nuts and almonds" (Gen. xliii. 11). The conclusion which has been generally drawn from this is, that the tree which yielded the balm was a native of Palestine; and some have even alleged, that the passage implies that the plant was peculiar to Syria. But it is very doubtful if the words "best fruits of the land" can be held to include the vegetable productions specially named—"balm, spices, myrrh, nuts, and almonds." "A little honey" is mentioned in the list, between the balm and the spices. No more, then, is implied than that Palestine reckoned these among its characteristic articles of trade. The trees which supplied the balm, and myrrh, and spices, might no more be either natives of the land, or peculiar to it, than the vine and the apricot are indigenous in Britain. The prophet Jeremiah refers to balm more frequently than any other Scripture writer. His first use of it is in the oft-quoted text—"Is there no balm in Gilead? is there no physician there? why then is not the health of the daughter of my people recovered?" (Jer. viii. 22.) These questions were asked at a peculiarly critical period in the history of Israel. The nation was on the eve of destruction. The king was a weak pleasure-lover, the nobles

were sunk in sensuality and given to oppression, the prophets prophesied smooth things to a backsliding people, the priests "healed the hurt of the daughter of Zion slightly," and all the prospects of prosperity which the reforming work under Josiah had inaugurated were blighted. "Peace! peace!" was proclaimed when there was no peace. On the contrary, the dogs of war were on the very eve of being let loose on flocks doomed to slaughter. Egypt had, when harvest should come, promised help, and the people reckoned on salvation therefrom, but the prophet could cry in bitterness and sorrow, "The harvest is past, the summer is ended, and we are not saved" (ver. 20). He knew, indeed, where help might be obtained, for "the Lord was in Zion as her king;" but the nation refused to believe this. There was a physician in Gilead, and abundance of balm—a covenant God ready to heal them, and the treasures of his grace prepared; but it was all as nought to those bent on backsliding. Thus his deep grief—"For the hurt of the daughter of my people am I hurt; I am black; astonishment hath taken hold on me" (ver. 21). "Is there no balm in Gilead; is there no physician there?" It is clear from this that the curative power of the *tzeri*, or balm, was highly esteemed in the time of Jeremiah (B.C. 580), that it was still to be had in the district of Mount Gilead, and that there was a class of men there who applied the balm to the wounds of those who resorted thither.

When the same prophet was sent with "the word of the Lord against Egypt, against the army of Pharaoh-necho, king of Egypt," he represents the hopelessness of all efforts to escape the scourge of the hosts of Nebuchadrezzar, king of Babylon, by saying—"Go up into Gilead, and take balm, O virgin, the daughter of Egypt: in vain shalt thou use many medicines; for thou shalt not be cured" (xlv. 11). Egypt thus used the *tzeri* as one among her many medicines, and was in the habit of sending to Gilead for it. Thus the Midianite caravan.

What the king of Babylonia had been to Egypt, Cyrus with his Medo-Persian armies was to be to Babylonia—"Chaldea shall be a spoil: all that spoil her shall be satisfied, saith the Lord" (Jer. l. 10). Contemplating the results, the prophet exclaims—"Babylon is suddenly fallen and destroyed: howl for her; take balm for her pain, if so be she may be healed" (li. 8). No mention is made here of Gilead; but the mind of the prophet was possessed with joy as he anticipated the return of the captives to familiar scenes—"I will bring Israel again to his habitation, and he shall feed on Carmel and Bashan, and his soul shall be satisfied upon Mount Ephraim and Gilead" (l. 19). The

locality whence the balm was obtained was thus specially before him, and no doubt the balm referred to was again that of Gilead. His high appreciation of the curative power of the balm is implied in this passage. It is as if he had said—The cure of Babylon is hopeless, as the wound would be which Gilead's precious balm could not cure. "We would have healed Babylon, but she is not healed" (li. 9).

The only other passage in which this word occurs is Ezekiel xxvii. 17. In the "lamentation over Tyrus" the merchants who frequented her mart are named along with their characteristic merchandise, and among these the Hebrews are specially noticed—"Judah, and the land of Israel, they were thy merchants: they traded in thy market wheat of Minnith, and Pannag, and honey, and oil, and balm." The articles mentioned here with the balm point again to the best of their kind. The "wheat of Minnith, and the Pannag," are considered under the verse now quoted, and the "oil and honey" under 2 Kings xviii. 32. Meanwhile it may be held that the balm spoken of by Ezekiel was the "balm of Gilead." The two branches of the once united kingdom are specially mentioned by the prophet as trading with Tyre—exchanging what had become the characteristics of their respective districts for the foreign wares which found their way into the ports of Phœnicia. Gilead belonged to Israel, and Jericho, noted for its gardens with their balm-yielding trees, belonged to Judah. The district in which Minnith stood, though at this time under tribute to Judah, bordered on the south-eastern territory of Israel, and both may have traded in its wheat. Oil and honey abounded in both localities, and pannag would be found in both likewise.

It is thus evident from the words of Scripture, that the *tzeri*, or balm, was rare, and highly prized for its curative virtues. The tree from which it was obtained flourished in earliest times in Gilead. Long before the Jews obtained possession of Canaan, Gilead was frequented by Arabian merchants, for the purpose of carrying its balm down to Egypt. When, however, the Hebrew state advanced in luxury, and sought to satisfy its growing wants with foreign produce, balm became in their hands an article of commerce. The fact that both Israel and Judah are represented by Ezekiel, after the breaking up of the kingdom into two parts, as trading with Tyre in balm, whence it would reach Greece and Rome, shows that it was not at that date limited to Gilead. The notices to be met with in other quarters are corroborative of these general deductions from the Bible references.

The last Scriptural notice of balm was by Ezekiel, B.C. 595, and the

earliest allusion to it in profane history is connected with the visit of Alexander the Great to Palestine, about B.C. 332. Even then it was very scarce and precious; not more than would fill an oyster shell could be collected during any one day, when the incision made in the bark was running most freely. Particular mention is made of it about this time by Theophrastus in his History of Plants, in whose day balm sold for its weight in silver. Pliny and Strabo, about the beginning of the Christian era, make special reference to it. The former notices its existence in Palestine, the latter says it is to be met with about "Saba—the happy land of the Sabeans." The notice of Strabo is interesting when associated with the account of the visit of the queen of Saba, or Sheba, to Solomon:—"They say also that we possess the root of that balsam, which our country still bears, by this woman's gift."—(Antiq. viii. c. vi. 6.)

Fig. 105.

Balm of Gilead (*Balsamodendron Gileadense*).

About B.C. 65, the Roman general Pompey conquered Palestine. Josephus twice notices the "balsam-tree" in connection with Pompey's wars. "When," he says, "Pompey had pitched his camp at Jericho, where the palm-trees grow, and that balsam which is an ointment of all the most precious, which, upon any incision made in the wood with a sharp stone, distils out thence like a juice, he marched in the morning to Jerusalem" (Antiq. xiv. c. iv. 1). And in his work on the "Wars of the Jews," he says as to the district around Jericho—"Now, here is the most fruitful country of Judæa, which bears a vast number of palm-trees, besides the balsam-tree, whose sprouts they cut with sharp stones, and at the incisions they gather the juice, which drops down like tears" (b. i. c. vi. 6). Jericho and the adjacent region were given by Antony to Cleopatra, B.C. 38. "When," says the Jewish historian, "Cleopatra had obtained this much, and had accompanied Antony in his expedition to Armenia, as far as Euphrates, she returned back, and came to Apamia and Damascus, and passed on to Judæa, where Herod met her, and farmed her parts of Arabia, and those revenues that came to her from the region about Jericho. This country bears that balsam,

which is the most precious drug that is there, and grows there alone" (Antiq. xv. c. iv. 2).

In the triumph which Pompey obtained on his return to Rome from his eastern wars, and in that voted to Vespasian 144 years after (A.D. 79), the tree from which the precious balm was obtained was exhibited to the people on the streets of Rome, as one of the things which bore testimony to the complete subjugation of the land, from which balm had been brought for generations by the merchants of Phœnicia to the Imperial city. (Pliny, b. xii. 25.) Quotations might be multiplied from classical authorities, all showing how highly esteemed the balm was by the ancients, and the burden of these would be found similar to the testimony of sacred writers. A review then of the literature of this subject leads us to conclude—(1) That the balm mentioned in the Bible was earliest obtained from trees which grew in Gilead, and that later Jericho became noted for its gardens of the same species of trees. This does not, however, shed any light on the region of which the balsam-yielding tree was a native. (2) That the often repeated notice of Saba, Seba, or Sheba, in connection with the precious balm, points to that locality as one to which this tree was indigenous. It is a strong corroboration of this that Bruce, the Abyssinian traveller, found the tree growing in certain valleys of Arabia Felix. He no doubt believes that the true Sheba is represented by the district Azab on the African coast, near the Straits of Babelmandel, and supposes that it had been originally carried across the Red Sea and planted in Arabia, whence it was taken to Gilead. This would make it an African plant. But while there cannot now be the slightest doubt that Bruce saw the plant, his account still leaves the native country of the balm-yielding tree a matter of uncertainty. (3) That the shrub from which the precious balm was obtained was very rare. It still continues to be so. This circumstance goes very far to assist in the identification of the plant. Many resin-producing trees have been named, any one of which, it is alleged, may have yielded this substance. But had it been so, it is not possible such importance would have been attached to the product called by so many different names, while each name points to the same plant. It was called Balm of Gilead, Balsam of Jericho, Balsam of Judæa, and Balsam of Mecca.

The *tzeri*, or balm, was named according to the mode in which it was obtained from the tree. There was—1. *Opobalsam*, or that which trickled like tears from the incision made in the bark. This was the most precious kind. It has always been scarce, and is now hardly pro-

Capra.

C. Ibex.— Ibex Goat.

Antilope

A. cervicapra – Common Antelope.

Cap.s Capræa .— Roebuck

THESE ARE THE BEASTS WHICH YE SHALL EAT.—Deut. xiv. 4, 5.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON & NEW-YORK.

curable in its pure state. 2. *Carpobalsam*, or the ointment obtained from pressing the fruit of the tree. 3. *Xylobalsam*, a resin got by boiling the twigs and branches of the tree, and then skimming the surface. The scarcity of this drug in a pure state has led to many imitations and adulterations of the true opobalsam.

After much discussion and countless theories, it may now be concluded, that the *tzeri* is the produce of a shrub known to botanists as the *Balsamodendron Gileadense;* the generic name being that given to it by Theophrastus (*balsamon dendron*). It belongs to the Natural Order of dicotyledonous plants *Amyridaceæ*, or Myrrh family—a group remarkable for their fragrant resins; as *myrrh*, obtained from the Arabian balsamodendron (*Kataf = B. myrrah*); *olibanum*, the produce of Boswellia serrata—a plant which grows in the mountains bordering on the sources of the Ganges; *bdellium*, the *googul* of India, is yielded by another Himalayah plant (*Amyris Agallocha*), *western elemi;* another gum resin is obtained from the Brazilian Icica icariba, and *eastern elemi* from Balsamodendron zeylanicum. The gum resins known as Sicilian and Egyptian bdelliums are supplied by plants belonging to a widely different group—the Umbelliferæ. The Sicilian species is got from a vegetable of the carrot kind—the *Daucus gummifer* of Lamarck. A spurious article is manufactured in Palestine from the fruit of one of the oleasters called by the natives *zukum*, and sold to travellers as the famous balm of Gilead.

3. *Lot*, myrrh.—This word occurs only twice in Scripture, here and in chapter xliii. 11. The term most frequently used for the aromatic gum—the myrrh of commerce—is *mohr*. See under Ps. xlv. 8. Reference has been already made (ch. xxvii. 27) to Arabian *ledanum*—a fragrant gum alluded to by Herodotus. The word *lot* should be rendered ledanum instead of myrrh, as in our translation. It distils in summer from the leaves and branches of the *Cistaceæ* or Rock-rose family of plants. Formerly it was much used as a pectoral remedy. This plant is represented by our well-known *Cistus* or Rock-rose (*Helianthemum vulgare*), the dark green leaves of whose shrubby prostrate branches, and the bright yellow tints of whose flowers shed much beauty on grassy upland slopes and gravelly banks in early autumn.

"They blow
With such a simple loveliness among
The common herbs of pasture, and breathe out
Their lives so unobtrusively."

The ledanum of the south of Europe is obtained from the Cretan cistus (*Cistus Creticus = ledanifera*) :—

> "The forest or the lonely heath wide spread,
> Where Cistus shrubs, sole seen, exhaled at noon
> Their fine balsamic odour all around,
> Strewed with their blossoms, frail as beautiful,
> The thirsty soil at eve; and when the sun
> Relumed the gladden'd earth, opening anew
> Their stores exuberant, prodigal as frail,
> Whiten'd again the wilderness."—*Southey.*

It has been observed, that the ledanum cistus yielded its gum when its stems were broken or crushed by the goats which fed where it abounded. This led to the employment of various methods for obtaining it. That now had recourse to is to draw an instrument like a rake, to which broad pieces of leather are tied, over the plants. The gum clings to the leathern thongs, and when dried is scraped off by the collectors. The hair of the animals which feed among the shrubs is also, as of old, combed to secure the ledanum which may have become attached to it. Like the *tzeri*, the *lot*, or ledanum, is now seldom met with in its pure state, except in the localities in which it is gathered. It is still in use among the inhabitants of Asia Minor as a perfume.

Such were the wares with which the Midianite merchants were on their way down to Egypt when Joseph's brethren met them. Similar bands may be witnessed in the same localities still. "On leaving Jenîn," says Dr. Thomson, "the road follows the Wady Bel'amy for the first half hour, passing on the right an ancient ruin of the same name. This wady is full of fountains in winter, and very muddy, but hot as a furnace in summer. Rising out of this, over a long hill, you come down again to a considerable town called Kŭbatîeh. The hills about this place are covered with groves of flourishing olive-trees, and the net-work of vales and plains west of it is extremely pretty and fertile. In one of them is the site of Dothan, called now Tell Dothaim. This *tell* was once inhabited, and at its base is a fountain where the brethren of Joseph may have watered their flocks. The neighbourhood affords the very best pasturage; and this was the reason, no doubt, why they came to it from Nablûs. I am not aware that there still exist old cisterns about Dothaim, but there are very few ancient sites where they are not found; and, I presume, a careful search would reveal the very pit (*beer*) into which Joseph was cast. It is in pleasing agreement with the narrative in Genesis to find that the great highway

from Gilead to Egypt still passes near this place. The caravans come up the Ghor Beisan, pass by Zer'in and Lejjûn, enter the hill country of Samaria by the wady of Dothaim, and thence go on to Ramleh, Gaza, and Egypt. The large caravansary north of Beisan, called Khan el Ahmar, marks one important station on this route. It was along this road that those "Ishmaelites came from Gilead with their camels bearing spices, and balm, and myrrh, going to carry them down to Egypt," to whom the poor lad Joseph was sold by his cruel and envious brethren. It is worthy of remark that these modern Ishmaelites would not now hesitate to make just such a purchase, and actually do in certain parts of the country; and it is also interesting to find *balm* connected with Gilead at that early day. Jeremiah, long after, exclaims, "Is there no balm in Gilead? is there no physician there?"

Taking the "twenty of silver" (ver. 28), as "twenty shekels of silver," it appears that the Ishmaelites did not value Joseph at a price as high as the Hebrews were wont to value their slaves:—"If the ox shall push a man-servant or maid-servant; he shall give unto their master thirty shekels of silver."

The robe which an indulgent father had given to the child of his special care and love, was taken from Joseph and dipped in the blood of a kid of the goats killed for the purpose (ver. 31). "To dip" (*taval*) used here does not necessarily imply that the whole garment was soaked in the blood. The usual meaning applied to the part of the verb which occurs in this verse is, to put a part of the liquid on the object touched. Thus when the sons of Aaron brought the blood of the slain calf to their father, "he dipped his finger in the blood, and put it upon the horns of the altar, and poured out the blood at the bottom of the altar" (Levit. ix. 9). It has, however, sometimes the more general meaning. It is rendered plunge in Job ix. 31—"Yet shalt thou plunge me in the ditch, and mine own clothes shall abhor me." Joseph's brethren so stained the coat with blood as to deceive their father into the belief that he had been killed by a beast of prey. "He said, It is my son's coat; an evil beast hath devoured him; Joseph is without doubt rent in pieces" (ver. 33). The incident shows very clearly that there was nothing improbable in such an event happening. Even at this day, a solitary lad wandering in an uninhabited district of Syria, would be in danger of a like fate from the hyæna, the leopard, or the wolf. And at the period referred to in the text, the king of "evil beasts"—the lion—roamed in the very locality in which Joseph wandered in search of his brethren.

GENESIS XXXVIII.

THE circumstances mentioned in this chapter show how soon the baneful influence of heathen depravity was felt in the household of Jacob. Judah, his fourth child by Leah, made friendship with a noted inhabitant of Adullam, named Hirah, to whom he went down, from the Hebron uplands where his father and brethren then dwelt. Adullam lay in the *shephelah*, plain or valley, to the north-west of Hebron, and is not to be confounded with the "cave of Adullam," which was situated at some distance in a mountain gorge. See under 1 Sam. xxii. 1. While sojourning with Hirah, Judah saw "a young female, whose father's name was Shuah; and though he had joined in objecting to his sister's marriage with Shechem, yet he makes no scruple of taking this Canaanitish woman to be his wife; and that without at all consulting his father. The children which he had by this marriage were such as might be expected; and the loose life which he himself led, aided in it as he was, by his *friend* the Adullamite, was that of a man, who, weary of the restraints of religion, had given himself up to his propensities."

One of Judah's sons was born at Chezib. This is specially noticed. Bathshua "conceived again, and bare a son; and called his name Shelah; and he was at Chezib when she bare him" (ver. 5). In the Vulgate edition of the Scriptures (A.D. 383), Chezib is not regarded as a proper name, but is associated with the daughter of Shua—"when she had born Shelah she ceased to bear." But the translation which regards the word as the name of a town is to be preferred. It is held to be the ancient Achzib, which, like Adullam, lay in the plain of Judah. The literal meaning of the word is deceit—a lie. Thus Micah's reference:—"The houses of Achzib shall be a lie to the kings of Israel" (ver. 14). In the next verse the same prophet mentions Adullam as the glory of Israel (ver. 15). When the land was divided, Adullam and Achzib are named as belonging to the tribe of Judah (Josh. xv. 35, 44). This is most likely the Chezib of this chapter. Another town of the same name is mentioned as belonging to Asher, and as having continued a place of residence up to a time subsequent to the death of Joshua.

"Neither did Asher drive out the inhabitants of Achzib" Judg. i. 31. Some have sought to identify this town with Achshaph, which lay on the border of Asher (Josh. xix. 25), but not on good grounds. Dr. Robinson supposes "that the true site of Achshaph may have been perpetuated under the name *Kesaf*," now represented by a heap of ruins on the border of Asher. The Achzib of Asher is now known as *es-Zib*. Maundrell (A.D. 1697) was the first English traveller who pointed out the likelihood of the identity between Achzib and es-Zib. "This Zib," adds Dr. Wilson on the passage from the old traveller, "which is now a village of no great magnitude, is, doubtless, the place it is here supposed to be. By Ptolemy it is called Ecdippa, and it is mentioned by him as intermediate between Tyre and Ptolemais. It receives the same name from Pliny. It stands close to a small brook, running into the sea from the east."

In 1 Chron. iv. 21, 22, among the "sons of Shelah," the "men of Chozeba" are mentioned: "The sons of Shelah were Jokim and the men of Chozeba, and Joash, and Saraph, who had the dominion in Moab." It is most likely, both from the general resemblance of name, and from the name being associated with the descendants of Shelah, that Chozeba is the same with Achzib and Chezib, the birthplace of the third son of Judah.

Judah had completely separated himself from his brethren, and had chosen the society of the heathen. He still pursued the pastoral pursuits which had occupied him in his father's house. Thus when he fell into the abominable sin mentioned in this chapter, he was on his way, with his friend Hirah, to "Timnath unto his sheep-shearers" (ver. 12). See "Timnath" under Judg. xiv. 1. "Scarlet thread" (ver. 28) is noticed under Exod. xxv. 4, which see.

GENESIS XL.-XLI.

IN the scheme of providence by which Joseph was to be introduced to Pharaoh, the dreams of the prisoners held a chief place. When he met Pharaoh's officers in the morning after their dreams, he said to them, "Wherefore look you so sadly to-day. And they said, We have dreamed a dream, and there is no interpreter of it." Their dreams were recounted, and the true interpretation was revealed to Joseph. That of the butler is stated in verses 9–11. The connection of the vine with Egypt has been noticed under Gen. ix. 20, which see. The chief baker's fate is described in ver. 19—"Within three days shall Pharaoh lift up thy head from off thee, and shalt hang thee on a tree; and the birds shall eat thy flesh from off thee." This scene may still be witnessed in the valley of the Nile. The body of the criminal, as used to be the case in Britain, is suspended in a public place, and the birds eat the flesh. Ravenous birds still abound. The Griffon vulture (*Gyps fulvus*) still haunts the valley. The Egyptian vulture (*Neophron percnopterus*), the raven (*Corvus corax*), and the hooded crow (*C. cornix*), attract the attention of travellers.

When Joseph asks the butler to make mention of him to Pharaoh, he names Canaan as the "land of the Hebrews"—an expression which implies much more than a reference to the country in which his brethren were then sojourning. He carried his faith in the promise of the land to his fathers into the dungeon of Egypt, and spoke of the country as if already possessed by Israel. He may have designed also by the expression to awaken the curiosity of one who must have known it as the land of Canaan, or of the Amorites. This would have supplied an occasion for opening up to the Egyptian the religious character of the house of Jacob.

"Pharaoh dreamed and behold he stood by the river." The word used here (*yeor*) is of frequent occurrence. In several passages it can only mean the Nile. If we consider these, some of the distinguishing features of that remarkable river will be suggested. Its margin in the neighbourhood of the palace of the old Pharaohs was clad with "water-weeds." When the mother of Moses had made the "ark of bulrushes"

for her child, "she laid it in the flags of the river's brink" (Exod. ii. 3). In Isaiah's "burden of Egypt" reference is made to the "brooks" of the Nile. The notice is exceedingly apt—"The paper reeds by the brooks, by the mouth of the brooks, and every thing sown by the brooks, shall wither, be driven away, and be no more. The fishers also shall mourn, and all they that cast angle into the brooks shall lament, and they that spread nets upon the waters shall languish" (xix. 7, 8). *Yeor* is here rendered brooks; in Jeremiah xlvi. 7, 8, it is translated floods. The passage occurs in "the word of the Lord which came to Jeremiah against Pharaoh-necho, king of Egypt." The periodic rising of the Nile supplies a figure in the description of the armies of Egypt. As the river overflows its banks and covers the alluvial plains in the valley, so Pharaoh-necho and his hosts hoped to overrun and bring under their power all neighbouring nations. "Who is this that cometh up as a flood, whose waters are moved as the rivers? Egypt riseth up like a flood, and his waters are moved like the rivers; and he saith, I will go up, and will cover the earth; I will destroy the city, and the inhabitants thereof." "Son of man," said the Lord to Ezekiel, "set thy face against Pharaoh, king of Egypt, and prophesy against him, and against all Egypt." Pharaoh is then compared to the crocodile—"the great dragon that lieth in the midst of his rivers, which hath said, 'My river is mine own, and I have made it for myself.'" But "a hook was to be put into his jaws;" his people were to suffer with him—"I will cause the fish of thy rivers to stick unto thy scales;" and he was to be taken from the place of his strength—"I will bring thee up out of the midst of thy rivers" (Ezek. xxix. 1–4). By another prophet, the effects of the coming in of iniquity like a flood, are set forth in the light of the destruction which is to come upon the workers of wickedness. The punishment will be like the sin:—"Shall not the land tremble for this, and every one mourn that dwelleth therein? and it shall rise up wholly as a flood; and it shall be cast out and drowned, as by the flood of Egypt. And the Lord God of hosts is he that toucheth the land, and it shall melt, and all that dwell therein shall mourn; and it shall rise up wholly like a flood, and shall be drowned, as by the flood of Egypt" (Amos viii. 8, ix. 5). In these passages the periodic rise of the Nile is noticed, the characteristic vegetation of some parts of its banks is named, and the crocodile, which still finds it a favourite haunt, is alluded to. It was the same water which entered into the imagery of Pharaoh's dream—"He dreamed, and, behold, he stood by the river." The Nile, as the true "river of Egypt" (*Nahar Mitzraim*), has been already

distinguished from the "brook of Egypt" (*Nahal Mitzraim*). See under Gen. xv. 18. Divine honours were paid to it; see under Exod. ii. 3. Its periodic overflow is referred to in the notice of Amos ix. 5, where also most recent discoveries in the river system of Africa are referred to.

The dream which sorely troubled Pharaoh, and led him to send for his magicians (ver. 8), consisted chiefly of two parts. In the first, the coming famine is intimated to him by the vision of the kine; in the second, by that of the ears of corn. The kine were seen in two conditions. "There came up out of the river seven well-favoured kine and fat-fleshed, and they fed in a meadow. And, behold, seven other kine came up after them out of the river, ill-favoured, and lean-fleshed; and stood by the other kine upon the brink of the river. And the ill-favoured and lean-fleshed kine did eat up the seven well-favoured and fat kine" (ver. 2–4). The place of domestic cattle in zoological classification, their leading types, and most common species, have been fully noticed under Genesis xii. 16, which see.

The Hebrew word for "cow" (*parah*) is rendered here in the plural by the old English term "kine." It first occurs in the account of the herds of Jacob (Gen. xxxii. 15). In Genesis, in 1 Samuel, and in Amos, it is translated kine; in Numbers and Hosea it is rendered heifer; and in Job and Isaiah, cow. The references in 1 Samuel all occur in chapter vi. in connection with the incident of the sending away by the Philistines of the ark of God from Ekron. The word is used by Amos when he compares the nobles of Israel who oppressed the people to the "kine of Bashan" (iv. 1). For "heifer," see under Num. xix. 2. In the passage now noticed the word is properly rendered kine, or cows. It is thus used for the female in Genesis xxxii. 15—"forty kine and ten bulls;" and in Job xxi. 10—"their cow calveth, and casteth not her calf." The prophet, in the glowing picture of the latter day glory, introduces the cow with the she-bear—"the cow and the bear shall feed; their young ones shall lie down together" (Isa. xi. 7). "Ox" is noticed under Num. xxii. 4; Isa. i. 3; and 1 Cor. ix. 7–9; "bull" under Ps. lxviii. 30; and "bullock" under Lev. i. 5.

The scene pictured in this part of Pharaoh's dream is one of much beauty. It may be noticed in our own land during the mid-day heat of sultry days in summer. When cattle are put to graze in pasture-land lying on the banks of rivers, they betake themselves to the water, and wading in till the water reaches nearly above the legs, they catch the cool breeze ever on the surface of the water, and are refreshed as

the passing stream laves around them. In night visions the green meadows of Nilus stretched out before the mind of a monarch anxious for the good of his people; and the scene which must have often presented itself to him by day is so impressively reproduced in his dreams, that he cannot resist being greatly influenced by it—"Behold, there came up out of the river seven well-favoured kine, and fat-fleshed, and they fed in a meadow." His religious views would deepen the impression. The kine were sacred to Isis, the favoured spouse of the Egyptian fertilizer Osiris, the goddess of the earth and of fertility. The Nile itself symbolized the wealth of Egypt, and the well-favoured symbols of Isis being seen coming up out of the Nile would greatly interest Pharaoh. But the vision changed. Seven ill-favoured and lean-fleshed kine come up, stand for a season beside these first seen, and then devour them. The very death of the fat-fleshed seven would disturb him—"So Pharaoh awoke." The idolatrous worship rendered to cattle by the Egyptians is noticed under 1 Kings xii. 2–8, which see.

Fig. 106.

Seven-eared Wheat on one Stalk.

The scene again changes. It becomes associated with circumstances fitted to influence the king in a yet higher degree. As before, the number seven, expressive of fulness, is reproduced; and, as before also, that which was suggestive of plenty is destroyed by what betokened scarcity—"He slept, and dreamed the second time: and, behold, seven ears of corn came up upon one stalk, rank and good. And, behold, seven thin ears, and blasted with the east wind, sprung up after them. And the seven thin ears devoured the seven rank and full ears. And Pharaoh awoke, and, behold, it was a dream. And it came to pass in the morning, that his spirit was troubled; and he sent and called for all the magicians of Egypt, and all the wise men thereof: and Pharaoh

told them his dreams; but there was none that could interpret them unto Pharaoh" (ver. 5–8).

It hardly admits of doubt, that, though the generic name "corn" is used here, a variety of wheat is indicated by Pharaoh. It is not unusual still to meet with stalks of many-eared wheat (*Triticum compositum*) bearing seven and sometimes nine and eleven well-formed ears. Having witnessed this in nature, his thoughts of its significance, as an emblem of plenty, were reproduced in the imagery of this dream. The ears which were marked by all the evidences of health, and were rounded by the thick-set grains, are succeeded by seven thin ears, and devoured by them. The thin ears are represented as having been "blasted by the east wind." This has given rise to much discussion. The difficulty has been imaginary. All we know of the climate of Egypt goes to show the appropriate character of the picture. "The burning east wind, likely to parch the corn in the neighbourhood of Heliopolis, blows from the Desert of Shur, and the Desert of Paran; it is far from refreshing; it permits no dew, and causes all vegetables to wither. Its introduction here implies, therefore, neither geographical ignorance nor carelessness; it is not necessary to translate it *a strong wind* (Exod. xiv. 21); it is not even requisite to render it *south-east wind*, and to excuse the inaccuracy with the character of the *dream* in which it occurs. Direct east winds may be rare in Egypt; but dearth and famine, such as described in our narrative, are there at least equally exceptional. The bad ears were blasted by the east wind, which, blowing from the sandy steppes and deserts in the vicinity of the Red Sea, and from the Arabic peninsula, often withers the vegetation of Lower Egypt, and completely destroys the labour and the hopes of the husbandman. But this wind can, in our narrative, be neither the fearful *chamsin*, which blows from south-west, nor the destructive *samum*, which begins only in June, when the corn harvest is long finished."—(*Kalisch.*)

The interpretation of the dream follows, and the way is prepared for the elevation of Joseph to honours next to regal. Joseph's frank and manly piety shines very brightly out in all these transactions (ver. 25, 32, 51, 52). As proofs of the honour bestowed on Joseph, mention is made of the ring from Pharaoh's hand, the vestures of fine linen, and the gold chain (ver. 42). The gift of the ring (*tabbaath*), or royal seal, secured the attention even of the highest and most haughty nobles to the decrees to which it was affixed. Thus when Haman was made chief minister of Ahasuerus, it is said, "The king took his ring from

his hand, and gave it unto Haman the son of Hammedatha the Agagite" (Esth. iii. 10). The gift of the chain of gold has in all times, and in almost every country, been chosen as a mode of rewarding great public services, and as a badge of honour. Though nothing is positively stated in the text as to appendages to this chain, there is every likelihood that additions such as were worn by the chief judge of Egypt were attached to it. The commission given to Joseph implied that he was to be supreme in the administration of justice—"According unto thy word shall all my people be ruled" (ver. 40); "Without thee shall no man lift up his hand or his foot in all the land of Egypt" (ver. 44). "The judges in Egypt wore golden chains around their necks, to which was suspended a small figure of Thmè, the goddess of Truth, ornamented with jewels; being Thmè in her double capacity of Justice and Truth." —(*Gliddon.*)

The vestures which formed part of the royal gift were of fine linen (*shesh*), rendered in the margin "silk." The word occurs very frequently in Exodus. It was one of the articles which the children of Israel were to give as a freewill offering for the furnishing of the tabernacle (Exod. xxv. 4). It was to go to make the curtains of the tabernacle (xxvi. 1), the vail (ver. 31), the hanging for the door (ver. 36), for the court (xxvii. 9; xxxviii. 9); and the mitre, the bonnets, and the breeches of the priest were to be formed of *shesh*, or fine linen (xxxix. 28). In Esther it is rendered "marble" and also "blue" (i. 6). So in Song v. 15. The virtuous woman is described as "making herself coverings of tapestry," and as having "clothing of silk (*shesh*) and purple." What fabric was this? Was it linen, or cotton, or silk? See under Proverbs xxxi. 22.

GENESIS XLII.

THE famine was sore in Canaan. Tidings had reached Jacob that abundant supplies might be obtained from Egypt. The wise precaution and prudent forethought of Joseph had not only saved the land of the Pharaohs, but neighbouring countries likewise, from the horrors of great scarcity. "Now, when Jacob saw that there was corn in Egypt, Jacob said unto his sons, Why do ye look one upon another? And he said, Behold, I have heard that there is corn in Egypt: get you down thither, and buy for us from thence; that we may live, and not die. And Joseph's ten brethren went down to buy corn in Egypt" (ver. 1–3). Two wholly different words are employed by the Spirit of God in this passage for "corn." Jacob said, "I have heard that there is corn (*shever*);" "Joseph's brethren went down to buy corn (*bar*)." The former word is also used in verses 1, 19, 26, and chapters xliii. 2; xliv. 2; and xlvii. 14. The latter, again, occurs in chapter xli. 35, 49; in this chapter at verse 25; and in xlv. 23. *Shever* may be regarded as a general term for what is to be made into victuals, and *bar* for the specific cereal which the sons of Jacob were to bring back in greatest abundance; most likely wheat. This is fully borne out by a review of the various passages in other portions of Scripture in which the words are to be met with. In the command touching the keeping of the Sabbath, prompted by the holy zeal of Nehemiah for the Lord's day, it is said—"If the people of the land bring ware or any victuals (*shever*) on the Sabbath day to sell, we would not buy it of them on the Sabbath" (x. 31). The same word is used by Amos when referring to a like state of things among the professing people of God themselves—"When will the new moon be gone, that we may sell corn (*shever*)? and the Sabbath that we may set forth wheat (*bar*)?" (Amos viii. 5, 6; also v. 11; Joel ii. 24; Job xxxix. 4; Jer. xxiii. 28.) In the passage last named the wheat is contrasted with the chaff, as an illustration of the marked difference between the imaginings of men and the faithful word of God—"What is the chaff to the wheat?" It is clearly as wheat that it is again used in Proverbs xi. 26—"He that withholdeth corn (*bar*), the people shall curse him:

but blessing shall be upon the head of him that selleth it." In the beautiful description of the blessings and bounties with which God shall crown the renewed earth, the word evidently means wheat:—

> "The pastures are clothed with flocks;
> The valleys also are covered over with corn,
> They shout for joy, they also sing."—(Ps. lxv. 13.)

Among the characteristics of the fully realized kingdom of God in the last days, not only are righteousness and peace mentioned, but plenty also. Even in most unlikely situations there shall be abundance:—

> "There shall be an handful of corn in the earth upon the top of the mountains;
> The fruit thereof shall shake like Lebanon:
> And they of the city shall flourish like grass of the earth."—(Ps. lxxii. 16.)

Another word is used for corn in general, which may include different kinds of grain. This is *dagan*, which occurs in Gen. xxvii. 28, 37. See under Ps. iv. 7. Corn is named in Deut. xvi. 13, for the "floor" (*goren*) on which it was threshed. In Job xxiv. 6, it is to be understood in the sense of "fodder" or "provender" (*belil*); and in Job v. 26, the word used (*gadish*) points to grain still on the straw and put up in bundles. "Standing corn" (*kamah*) is, as well as grass still on the stalk, suggested in 2 Kings xix. 26. See remarks on each of these references.

Joseph gave provision in abundance to his brethren, and "they laded their asses with the corn, and departed thence" (ver. 26). See for "ass" under Psalm civ. 11.

GENESIS XLIII.

IT having been determined that the sons of Jacob should go a second time to Egypt for corn, their father bade them "take of the best fruits of the land in their vessels, and carry down the man a present, a little balm, and a little honey, spices, and myrrh, nuts, and almonds" (ver. 11). See for "balm" and "spices" under Gen. xxxvii. 25; for "honey" under 2 Kings xviii. 32; and for "myrrh" under Gen. xxxvii. 25, and Ps. xlv. 8.

Fruits, as we have seen above, mean products which had come to be held characteristic of the land, whether these were obtained from indigenous sources or from plants which had been originally brought from a distance, but had become naturalized. Among these products, "nuts" (*botnim*) and "almonds" (*shaked*) are mentioned.

Shaw long ago led the way to a true identification of these fruits. Guided by the resemblance of the Hebrew names to those current among the Arabs, he remarked—"What is rendered *nuts* (Cant. vi. 11) should have been specified, and called wall-nuts; the Hebrew *ajouze* (*egoz*) and the Arabic *jeuz* being the same. *Botnim* also (Arab. *Butm*), which we render nuts, should be *pistachio-nuts*."—(Travels, i. 266.) See also above, chap. xxx. 37.

The pistacia-nut-tree (*Pistacia vera*) belongs to the natural order of dicotyledonous trees Anacardiaceæ, or Terebinth family. The different species of this family yield either turpentine or some strong acrid juice. Two kinds are natives of Syria—namely, the turpentine tree (*Pistacia terebinthus*), already referred to (xii. xiii.), and the tree whose fruits are named "nuts" in this passage. Gum-mastic is yielded by another species found in the south of Europe, and in the islands of the Mediterranean (*Pistacia lentiscus*). The pistacia-nut-tree was introduced into Europe by Lucius Vitellius, prefect of Syria about A.D. 50, and it is still cultivated in the countries bordering on the sea. In the East it is met with from Syria to Central India. "Pistachio-nuts," says Dr. Royle, "are much eaten by the natives of the countries where they are grown, and they form an article of commerce from Affghanistan to India. They are also exported from Syria to Europe. They might, therefore, well have formed a part of a present intended for Joseph."

They are used either raw or as prepared by the confectioner. Bruised pistachio-nuts, honey, and fine wheaten flour, are frequently formed into a sweet cake. The pistacia-tree sometimes reaches the height of about thirty feet, but its usual height is from twelve to eighteen feet, and, except when laden with fruit, has a somewhat bush-like and insignificant appearance. Its leaves are ovate and pointed, placed in pairs

Fig. 107.

Pistacia Branch.

with a single leaf generally at the end of the leaf-stalk. The flowers are male and female, and are developed in short branches from the two years old wood.

The Hebrew word rendered "nuts" in Song vi. 11, differs from that used here, which see. "Almonds" were to be included in the present sent to Joseph. The common almond-tree, Hebrew *shaked*, is the *Amygdalus communis* of botanists. This tree is specially noticed under Eccles. xii. 5.

GENESIS XLV.

AFTER the reconciliation between Joseph and his brethren, he urged them to hasten to their father with the glad tidings—"Joseph is yet alive." "And, said he, thou shalt dwell in the land of Goshen, and thou shalt be near unto me, thou and thy children, and thy children's children, and thy flocks and thy herds, and all that thou hast" (ver. 9, 10). In chapter xlvii. 11, the district named Goshen here, is called "the land of Rameses." The land of Goshen or of Rameses lay to the east of the Delta of the Nile, and was the part of Egypt nearest Palestine. Lying on the eastern banks of the Nile, it stretched to the south and east to the Arabian desert. It could not be far from a royal palace, for one of the advantages to his father of a residence there was, that he would be near Joseph. Two places were at this early period of Egyptian history honoured as royal seats, Zoan, or Tanis, situated on the east of the Tanaitic branch of the Nile, and Memphis, farther up, in the neighbourhood of the Pyramids. At either palace Joseph would be within an easy drive of his brethren.

When Jacob, in his journey from Canaan, was drawing near to Egypt, "he sent Judah before him unto Joseph, to direct his face unto Goshen; and they came into the land of Goshen. And Joseph made ready his chariot, and went up to meet Israel his father, to Goshen, and presented himself unto him; and he fell on his neck, and wept on his neck a good while (xlvi. 28, 29). This incident sheds more light on the geographical position of Goshen. It lay between Joseph's residence and the frontier of Canaan. It is mentioned as good pasture land. In the same chapter (ver. 34) Joseph instructs his brother to give great prominence to their pursuits, in order to make sure of having Goshen assigned to them, when they entered into the presence of Pharaoh—"Say thy servants' trade hath been about cattle from our youth even until now, both we and also our fathers; that ye may dwell in the land of Goshen: for every shepherd is an abomination unto the Egyptians." It must thus have been far enough removed from the most populous parts of Egypt, not to thrust its inhabitants and their occupations on the notice of the people, who held shepherds in abomi-

nation. When Pharaoh made it over as a gift to Jacob's family, other features of the land are indicated—"And Pharaoh spake unto Joseph, saying, Thy father and thy brethren are come unto thee: the land of Egypt is before thee; in the best of the land make thy father and brethren to dwell; in the land of Goshen let them dwell; and if thou knowest any men of activity among them, then make them rulers over my cattle. And Joseph placed his father and his brethren and gave them a possession in the land of Egypt, in the best of the land, in the land of Rameses, as Pharaoh had commanded" (xlvii. 5–11).

Dr. Robinson's opinions on the site of Goshen (*Bib. Res.* i. 52), though anticipating historical incidents not yet under notice, may be given here:—"This tract," he says, "is now comprehended in the modern province esh-Shŭrkîzeh, which extends from the neighbourhood of Abu Tábel to the sea, and from the desert to the former Tanaitic branch of the Nile; thus including also the valley of the ancient canal. If the Pelusiac arm, as is commonly assumed, were navigable for fleets in ancient times, the Israelites were probably confined to its eastern bank; but if we are at liberty to suppose that this stream was never much larger than at present, then they may have spread themselves out upon the Delta beyond it, until restrained by larger branches of the Nile. That the land of Goshen lay upon the waters of the Nile, is apparent from the circumstance that the Israelites practised irrigation; that it was a land of seed, figs, vines, and pomegranates; that the people ate of fish freely; while the enumeration of the articles for which they longed in the desert, corresponds remarkably with the list given by Mr. Lane as the food of the modern Fellâhs. All this goes to show that the Israelites, when in Egypt, lived much as the Egyptians do now; and that Goshen probably extended further west and more into the Delta than has usually been supposed. They would seem to have lived interspersed among the Egyptians of that district, perhaps in separate villages, much as the Copts of the present day are mingled with the Muhammedans. This appears from the circumstance of their borrowing "jewels of gold and silver" from their Egyptian neighbours; and also from the fact that their houses were to be marked with blood, in order that they might be distinguished and spared in the last dread plague of the Egyptians. The immediate descendants of Jacob were doubtless nomadic shepherds like their forefathers, dwelling in tents; and probably drove their flocks for pasture far up in the Wadys of the desert, like the present inhabitants of the same region. But in process of time they became also tillers of the soil, and exchanged their tents

for more fixed habitations. Even now there is a colony of the Tawarah Arabs, about fifty families, living near Abu Yábel, who cultivate the soil and yet dwell in tents. They came thither from Mount Sinai about four years before the French invasion. This drove them back for a time to the mountains of the Terâbîn, east of Suez; but they had acquired such a taste for the good things of Egypt, that like the Israelites they could not live in the desert, and soon returned after the French were gone. 'Now,' said our Arabs, 'though we acknowledge them as cousins, they have no right to dwell among us; nor could they live in our barren mountains after enjoying so long the luxuries of Egypt.'"

GENESIS XLVI.

AVING set out on his journey to Egypt, Jacob came to a place already noted in his own and in his father's history. "Israel took his journey with all that he had; and came to Beer-sheba, and offered sacrifices unto the God of his father Isaac" (ver. 1). Here Abraham and Isaac had halted for like purposes. It was thus associated with some of the most precious experiences of his family. In his case it was to be linked up with the most eventful step of his life. Even though attracted by the hope of meeting his fondly loved son, the old man hesitated to venture with his numerous household into a land, whose character he knew was wholly opposed to all his hopes regarding his children. At this point the Lord appeared to him again. "And God spake unto Israel in the visions of the night, and said, Jacob, Jacob. And he said, Here am I. And he said, I am God, the God of thy father: fear not to go down into Egypt; for I will there make of thee a great nation. I will go down with thee into Egypt; and I will also surely bring thee up again: and Joseph shall put his hand upon thine eyes" (ver. 2–4). This assurance was enough. "He rose from Beer-sheba and went on his journey to Egypt." "And the sons of Israel carried Jacob their father, and their little ones, and their wives, in the waggons which Pharaoh had sent to carry them" (ver. 5). The waggons (*agulah*) had been sent to Hebron (xlv. 27). The vehicles named here were, as the Hebrew indicates, such as were drawn by oxen. The chariot proper (*rechev*) was used by the rich, generally in short journies, and employed in war. When taken to a distance, such as were very light and drawn by two horses were used. The latter description would not have been suitable for conveying Jacob's household and their goods to Egypt. Some have asked, and have returned a negative answer to their own question—"Could waggons of this sort have travelled in the direct route among the mountains between Hebron and Beer-sheba?" In characterizing the road between Hebron and Jerusalem, Dr. Robinson (i. 214) says:—"It is direct; and in many parts artificially made, evidently in times of old. But wheels probably never passed here; the hills are too sharp and steep, and the

surface of the ground too thickly strewn with rocks, to admit of the possibility of vehicles being used in this mountainous region, without the toilsome construction of artificial roads, such as never yet existed here. Indeed, we nowhere read of wheeled carriages in connection with the country south of Jerusalem; except where Joseph is said to have sent waggons to bring down his father Jacob into Egypt. These came to Hebron; and Jacob travelled with them thence to Beer-sheba. We had this circumstance in mind on our journey from Beer-sheba to Hebron; and long before reaching Dhoherîzeh, we were convinced that waggons for the patriarch could not have passed by that route. Still, by taking a more circuitous course up the great Wady-el-Khûlîl, more to the right, they might probably reach Hebron through the valleys without great difficulty."

The genealogical table given in verses 8–27 suggests many difficulties. It has long formed one of those points in biblical literature which has been keenly and often bitterly contested. In opposition to orthodox interpreters, it has been alleged, that there are contradictions in this table, when it is compared with other portions of the Bible, which are fatal to the claims of the Pentateuch to be considered a true history—a fully inspired book. This is stated by Bishop Colenso, in the work to which reference has already been made, as one of his strongest points. In this, however, he has done no more than revive objections, which have been for centuries before the church, and which have been fully sifted and disposed of by apologists, every time they have been popularized with the view of shaking the faith of many. "I shall now," says the bishop when entering on his thankless task, "proceed to show, by means of a number of prominent instances, that the books of the Pentateuch contain, in their own account of the story which they profess to relate, such remarkable contradictions, and involve such plain impossibilities, that they cannot be regarded as true narratives of actual, historical, matters of fact. Without stopping here to speak of the many difficulties which (as will appear hereafter) exist in the earlier parts of the history, I shall go on at once to consider the account of the Exodus itself, beginning with the very first step of it—the descent into Egypt.

"'*And the sons of Judah, Er, and Onan, and Shelah, and Pharez, and Zarah; but Er and Onan died in the land of Canaan; and the sons of Pharez, Hezron and Hamul,*' Genesis xlvi. 12. It appears to me to be certain that the writer here means to say that Hezron and Hamul *were born in the land of Canaan*, and were among the seventy persons

(including Jacob, himself, and Joseph, and his two sons) who *came into Egypt* with Jacob. He repeats the words again and again:—'These are the names of the children of Israel, which *came into Egypt*,' ver. 8; 'All the souls, that *came with Jacob into Egypt*, which came out of his loins, besides Jacob's sons' wives, were threescore and six,' ver. 26—which they would not be without Hezron and Hamul; 'And the sons of Joseph, which were born him in Egypt were two souls: all the souls of the house of Jacob, which *came into Egypt*, were threescore and ten,' ver. 27. "So again we read:—'These are the names of the children of Israel, which *came into Egypt;* every man and his household *came with Jacob.* And all the souls that came out of the loins of Jacob were seventy souls: for Joseph was in Egypt already,' Exod. i. 1–5. 'Thy fathers *went down into Egypt* with threescore and ten persons; and now the Lord thy God hath made thee as the stars of heaven for multitude,' Deut. x. 22. I assume, then, that it is absolutely undeniable that the narrative of the Exodus distinctly involves the statement, that the sixty-two persons, 'out of the loins of Jacob,' mentioned in Gen. xlvi., and no others, went down with him into Egypt. Now Judah was *forty-two* years old, according to the story, when he went down with Jacob into Egypt. But if we turn to Gen. xxxviii., we shall find that, in the course of these forty-two years of Judah's life, the following events are recorded to have happened:—

"(1) Judah grows up, marries a wife—'at that time,' ver. 1, that is, after Joseph's being sold into Egypt, when he was 'seventeen years old,' Gen. xxxviii. 2, and when Judah, consequently, was at least *twenty* years old—and has, separately, three sons by her.

"(2) The eldest of these three sons grows up, is married, and dies. The second grows to maturity (suppose in another year), marries his brother's widow, and dies. The third grows to maturity (suppose in another year still), but declines to take his brother's widow to wife. She then deceives Judah himself, conceives by him, and in due time bears him twins, Pharez and Zarah.

"(3) One of these twins also grows to maturity, and has two sons, Hezron and Hamul, born to him before Jacob goes down into Egypt. The above being certainly incredible, we are obliged to conclude that one of the two accounts must be untrue. Yet the statement, that Hezron and Hamul were born in the land of Canaan, is vouched so positively by the many passages above quoted, which sum up the "seventy souls," that, to give up this point is to give up an essential part of the whole story. But then this point cannot be maintained,

however essential to the narrative, without supposing that the other series of events had taken place beforehand, which we have seen to be incredible."

"Those," continues Dr. Colenso, "who are satisfied that the above statements of the Bible do involve a manifest contradiction, and who are not interested in seeing how good men will 'do violence' to the plain meaning of the Scripture, in order to evade such a difficulty, may do well to omit the next chapter altogether, and pass on to the arguments which follow" (p. 20). The "next chapter" thus honoured with a sneer is entitled "The Explanations of Expositors Considered." The "explanations" are accompanied by a running comment, of which it must be said, without uncharity to the author, that its chief characteristic is that very effort to evade difficulties which he condemns in others, an effort made in a spirit which brings Coleridge's words to mind:—

> "This soul hath been
> Alone on a wide wide sea;
> So lonely 'twas that God himself
> Scarce seemed there to be."

Indeed, there lies at the foundation of the attitude assumed by Dr. Colenso to the Bible in such views as those quoted above, the great question of inspiration itself. Is an infallible record from God to man possible? If it be, then, is the Bible such a record? There is literally no standing-ground for any, touching the future and the good hope of reaching the Father's house, if we come to hold that some parts of the Bible are true and trustworthy, while others are not. Each man will then become in himself the standard of truth. What he thinks true will to him be so, but nothing else will. There will be no infallible guide for the wayward and erring. And really there is no meaning in such words as these, under which the true state of matters is concealed:—"I believe firmly in a God of righteousness, and truth, and love." "Should all else give way beneath me, I feel that his everlasting arms are still under me. I am sure that the solid ground is there on which my feet can rest in the knowledge of him." But whence this knowledge? Whence the explanation of this feeling? Are not both to be traced to the Scripture? Apart from revelation, no such attainments have ever been made by man. But Dr. Colenso labours to destroy the very sources of his own strength and hope; for if the Bible history is a fable, the doctrines of the Bible must be so likewise, seeing that they who taught them

believed the history to be an infallible record. If we once drift away from this, nothing is left but that we

"Deeper and deeper plunge 'in dark.'"

But waving these general questions, a full discussion of which would be foreign to this work, let us examine the value of the objections embodied in the extract given above:—

(1) It is *not* "certain that the writer here means to say that Hezron and Hamul were born *in the land of Canaan*," but the contrary. The writer says—"Judah had five sons; two of these died in the land of Canaan." Exegetically this statement is complete. He then tells us that Pharez had two sons, Hezron and Hamul; and the conclusion which every unbiassed reader has been in the habit of drawing from the introduction of the name Canaan is, that these sons were not born in the land in which their uncles died.

(2) Much stress is laid by Dr. Colenso on the expressions, "*came into Egypt*," and "*came with Jacob into Egypt*." Is there anything in the context by which the writer calls our attention specially to this form of expression. We feel as strongly as Dr. Colenso can do, that the difficulty is not met by alleging that the words are used in a loose and general sense. Such a view should be far from the minds of those who receive the Scripture as the word not of man, but of God. Now, it is clear from verse 27 that the writer intended the expression "came with Jacob into Egypt" to include Joseph and his sons, who were *already in Egypt* (Deut. x. 22). This, of course, will not satisfy our author, who will still hold that the writer should have used other words. Nevertheless, he must be regarded as the best interpreter of his own expressions; and he has given us proof here that he wished his readers to take his statement as including some who were even then in Egypt. But even the theory of the non-historical character of the Pentateuch, and the discovery that it is full of stupid errors and ignorant blunders, in no way lessens the difficulties so far as this author is concerned. Can he by any rational hypothesis explain how a writer of such ability, penetration, and grasp of intellect as he must have been who wrote the Book of Genesis—regarding him from the human and fallible point of view—could have been capable of such gross mistakes as are here laid to his charge? It is inconceivable on any other ground than that he was ignorant of Dr. Colenso's "First Book of Arithmetic!" But, seriously, it says little for the influence of learning on our reflective powers, to find one in Dr. Colenso's position gravely assuming, that he is a better

judge of the meaning of certain words than the man who used them could be. Moses tells us that in using them he intended they should include some who were already in Egypt; this author says they could not. It does not mend matters to distinguish between "came with Jacob," and, as in the case of Joseph's family, "came into Egypt," because, on the bishop's view of the words, Ephraim and Manasseh did not come into Egypt. They were born there. Yet Moses in another place distinctly says—"Thy fathers went down into Egypt *with* (literally *in*) threescore and ten persons" (Deut. x. 22)—not, it will be observed, with sixty-six only, as in verse 26 of this chapter.

(3) Is it "absolutely undeniable that the narrative involves the statement, that the sixty-six persons 'out of the loins of Jacob,' mentioned in Gen. xlvi., and no others, went down with him into Egypt?" The note on Hezron and Hamul indicates that it is not so certain as Dr. Colenso alleges. But more: It has been often pointed out that at the time of the second visit to Egypt, Reuben had only two sons (Gen. xlii. 37). Here four are named. Could the interval between the time of Reuben's speech and that of Jacob's migration be long enough for two more sons to have been born to him in the land of Canaan? The bishop says, "Yes." It may on the other side be as confidently answered, "No."

What indications of time have we in the narrative? There were seven years of remarkable abundance before the dearth began—"In the seven plenteous years the earth brought forth by handfuls" (Gen. xli. 47). The neighbouring countries were involved with Egypt in the famine, and may be held to have shared with it in the years of plenty. It cannot be shown that they did not. After Joseph made himself known to his brethren, he said—"God did send me before you to preserve life. For these two years hath the famine been in the land" (xlv. 6). He then assumes that the continuance of the dearth would be as long in Canaan as in Egypt—"Thou shalt dwell in the land of Goshen. . . . . There will I nourish thee; for yet there are five years of famine" (ver. 10, 11). The law of supply and demand in such a case implies, that the produce of a year of plenty is equal to the consumption of the first year of dearth. Besides, this is very much the state of matters even in ordinary times. The harvest of one year is held to be sufficient till that of the next year is reached. This, indeed, so naturally suggests itself to the reader, that almost any intelligent child in a Sabbath school would answer the question, "About what time of the year would this visit likely be made?" in the way we have

often heard it answered—"After the next harvest was seen to have failed." The first year of the famine must thus have been drawing to a close before they set out on their long journey from Hebron to the valley of the Nile. But they had returned, had consumed the first supply, and were about to set out again when Reuben said that Jacob might slay his two sons if he brought not Benjamin back. They returned immediately to Canaan. "Haste ye, and go up to my father," said Joseph, "and say unto him, Thus saith thy son Joseph, God hath made me lord over all Egypt: come down unto me, tarry not" (xlv. 9). Yet this credulous author gravely alleges, that in the interval between the time of Reuben's speech and Jacob's migration Reuben might—yea, according to his view, *must*—have had other two sons born to him in Canaan! It is again concluded, then, that the number given in this genealogical table includes some who were not born in Canaan.

(4) The difficulty as to Judah turns on the question whether Hezron and Hamul were born to him before he went down to Egypt. This is again taken for granted by Dr. Colenso (p. 19). This, however, is a mere assumption. If any indication is given of the land of their birth, Egypt is pointed to. Judah was forty-two years old when Jacob migrated to the land of the Pharaohs. In chapter xli. 46, it is distinctly stated, that "Joseph was thirty years old when he stood before Pharaoh." Judah was born in the fourth year of Jacob's double marriage, Joseph in the seventh. Reckoning, then, that the years of plenty began in the season after the elevation of Joseph, he would be thirty-nine years old when his father went down to him. Now, taking the marriage of Judah as having happened in his twentieth, or even, as is often the case in the East, in his eighteenth year, we have sufficient time for all the events happening which have so perplexed our author. It has been pleaded that chapter xxxviii. 1, decides that Judah *must* have been twenty years old. But the expression "at that time" is not necessarily to be linked up with the sale of Joseph. It may as naturally be associated with chapter xxxvii. 1—"Jacob," says the historian, "dwelt in the land wherein his father was a stranger, in the land of Canaan." But before proceeding farther, he goes on to narrate the incident by which "his generations" were to be ultimately led out of Canaan. This having been done, he returns to the domestic condition of the chosen seed. This is a common feature of historical writing. It is not, however, urged here; because the twenty-two years, which even Dr. Colenso admits, give time enough for the growth of the three sons and the connection of Judah with Tamar. Cases occur in the East of

the marriage of youths at the age of fifteen and sixteen, just as in this land it frequently takes place at eighteen. Giving twenty years as the age of marriage, a candid view of chapter xxxviii. will allow three years for the birth of Er, Onan, and Shelah, and will conclude that the two former had married when very young, because Tamar was asked by Judah to wait till Shelah was grown—attained the recognised marriageable age, twenty. This is coupled with the remarkable statement, "Lest peradventure he die also, as his brethren" (ver. 11)—a statement in the highest degree corroborative of these views. Dr. Colenso's objections would deserve some consideration could he show, that the grandsons of Judah were born in Canaan. Even then, however, they would not be unanswerable. The apologetic writers of last century were not afraid to look both this matter and that of the ten sons of Benjamin fully in the face. Such as believed that both Judah's grandsons and Benjamin's sons were born in Canaan, appealed to well-known facts as to the early age at which youths married, and produced extracts in proof. But holding that the genealogical table in this chapter contains names of men who were not born in Canaan, it is unnecessary to enter on this.

Dr. Colenso proceeds in chapter iii. to deal with the "Explanations of Expositors." Here he brings in and gives much prominence to the circumstance that ten sons are reckoned to Benjamin in this list (ver. 21). This objection also turns on the question of the place of birth. It cannot be proved that they must have been born in Canaan.

But what grounds have we for holding that the expression, "came with Jacob" may include those who were not born at the time of his migration? In seeking an answer to this, it would be highly unphilosophical to make our ideas rule the question as to the meaning of an author's words, if he has himself interpreted these and defined the mode in which he uses them. Even a slight acquaintance with the Scripture is enough to show us that the seed to be born is not only regarded as in their parents, but often spoken of as if already in the world. Thus they are included in compacts about the making of which they have not been consulted, and suffer, or the contrary, from the actions of their parents. God's covenant with Adam proceeds on this principle. So does his dealing with Abraham—"In thee shall all the families of the earth be blessed" (Gen. xii. 2, 3, with Gal. iii. 16). Thus, too, with the household of Isaac (Mal. i. 2, 3, with Rom. ix. 10–14). Jacob likewise came to be so identified with his seed, that they were regarded in him, and promises were given to him which were to be fulfilled in his

seed hundreds of years after he was gathered to his fathers. Thus in verse 4 of this chapter we have the promise of the deliverance from Egypt given to Jacob—"I will go down with thee into Egypt; and I will surely bring thee up again: and Joseph shall put his hand upon thine eyes." Why, by the way, has not the bishop fixed on this verse as another strong proof against the historical truthfulness of the whole chapter? Three things, he might have argued, are stated here in unbroken sequence. Jacob was to go down to Egypt, Jacob was to be brought up out of that land, and Joseph was to be alive at the time, because the words are plain and not to be twisted from their clear meaning, which inform us that he was to close the eyes of the old man at death! But do we not know, by the application of the simple rules of arithmetic to this question, that he could not have been alive at the alleged date of the Exodus! Therefore, of course, the whole account is a fable!

What objection has he to this view? He says (p. 22)—"The instances here quoted, where the ancestor is put for the whole race, bear no analogy whatever to the case now before us where *the children are referred to by name*, as well as the parent." But in the case of Esau and Jacob we have as definite a statement as we could have had, had they been named—"The elder shall serve the younger" (Gen. xxv. 23); and indeed both Malachi and Paul regard them as having been named. But apart from this, few will be able to see how the words, which he has put in italics, have any bearing, one way or another, on the matter. Another passage will occur to most in this connection. When the writer of the Epistle to the Hebrews illustrates the superior dignity of Melchisedek over that of Aaron, he says—"And, without all contradiction, the less is blessed of the better. And here men that die receive tithes; but there he receiveth them, of whom it is witnessed that he liveth. And, as I may so say, Levi also, who receiveth tithes, payed tithes in Abraham. For he was yet in the loins of his father when Melchisedek met him" (Heb. vii. 7–10). The bearing of all this is, that in most of the passages referred to the children, without being named, are regarded as in their parents, and that, as far as this genealogical list is concerned, those thus in the parents and to be born in Egypt are named as being so. We have one truth presented under two aspects. That is all. We are not careful to answer the somewhat foolish question, "Why not have mentioned all the grandchildren born in Egypt?" A line must be drawn at some point, and it may be fairly concluded that the writer was a better judge of this

than his gainsayer. There are a good many very common things which we all believe, whose nature and relations to other things are suggestive of questions which would puzzle even Dr. Colenso. The bishop's own words well indicate the kind of feeling with which most students of the Bible will regard him—"It is painful to mark the shifts to which so eminent an author has had recourse, in order to avoid confessing the manifest truth in this matter."

The tender and affecting meeting between Jacob and his long-lost child having taken place, Joseph said:—"I will go up, and shew Pharaoh, and say unto him, My brethren, and my father's house, which were in the land of Canaan, are come unto me: and the men are shepherds, for their trade hath been to feed cattle; and they have brought their flocks, and their herds, and all that they have. And it shall come to pass, when Pharaoh shall call you, and shall say, What is your occupation? Then shall ye say, Thy servants' trade hath been about cattle from our youth, even until now, both we, and also our fathers; that ye may dwell in the land of Goshen: for every shepherd is an abomination unto the Egyptians" (ver. 31–34). The view generally taken of this passage is well given by Sir G. Wilkinson. "The pastors," he says, "were divided into oxherds, shepherds, goatherds, and swineherds; but even among them a gradation of rank was observed; and those who tended the herds and flocks while grazing were inferior in position to the managers of stock in the farm-yard, who prepared provender for them when the Nile covered the lands. Those too who understood the veterinary art and took care of the sick cattle, were men of skill and intelligence, who held a higher post among the pastors. But they were all looked upon by the Egyptian aristocracy as people who followed a disgraceful employment; and it is therefore not surprising that Pharaoh should have treated the Israelites with that contempt which it was usual for the Egyptians to feel towards 'shepherds;' or that Joseph should have warned his brethren on their arrival, of this aversion of the Egyptians, and of their considering every shepherd an abomination. And from his recommending them to request they might dwell in the land of Goshen, we may conclude it was with a view to avoid as much as possible those who were not shepherds like themselves, or to obtain a settlement in the land peculiarly adapted for pasture. It is also probable that much of Pharaoh's cattle was kept there, since the monarch gave orders that if any of those strangers were remarkable for skill in the management of herds, they should be selected to overlook his own cattle, after they

were settled in the land of Goshen. This part of the country received at a later time the name of *Bucolia;* and the northern part of the Delta, with the lands lying to the east of the Damietta branch of the Nile, are still preferred for grazing cattle. The hatred borne against shepherds by the Egyptians was not owing solely to their contempt for that occupation; this feeling originated in another and a far more powerful cause—the occupation of their country by a pastor race, who had committed great cruelties during their possession of the country. And as if to prove how much they despised every order of pastors, the artists, both of Upper and Lower Egypt, delighted on all occasions in caricaturing their appearance. The swineherds were the most ignoble, and of all the Egyptians, the only persons who are said not to have been permitted to enter a temple; and even if this statement is exaggerated, it tends to show with what contempt they were looked upon by the individuals from whom Herodotus received his information, and how far they ranked beneath any others of the whole order of pastors. Indeed (as I have before stated) the same is still the case in India, where the swineherds are the very lowest class, and are so despised that no others will associate with them." The representation of shepherds and flocks on page 500 is copied from Sir G. Wilkinson's "Ancient Egypt."

"The pastors were a class apart from the agriculturists, and were held in disrepute, partly from the nature of their occupation, partly from the prejudices of the Egyptians against all herdsmen. But this did not extend to the farmers who bred cattle or sheep; it was confined to the poor people who kept them; and as if to show how degraded a class they were, they are represented, as at Beni Hassan and the tombs near the Pyramids, lame, or deformed, dirty, unshaven, and even of a ludicrous appearance; and often clad in dresses made of mattings, similar in quality to the coverings thrown over the backs of the oxen they are tending. They generally lived in sheds made of reeds; deriving a scanty nourishment from the humblest and coarsest food; but they were overlooked by other persons of a superior condition among the pastoral class. There were also overseers of the shepherds, who regulated everything respecting the stock—which were to graze in the field, which to be stall-fed—and their duty was also to give reports to the scribes attached to the steward's office, who examined them preparatory to their being presented to the owner of the estate. . . . . The shepherds on the estate were chosen by the steward, who ascertained their character and skill before they were appointed to their

various duties; and Pharaoh in like manner commanded Joseph, who was superintendent "over all the land of Egypt, to select from among his brethren such as were skilful in the management of flocks or herds, and make them rulers over his cattle."

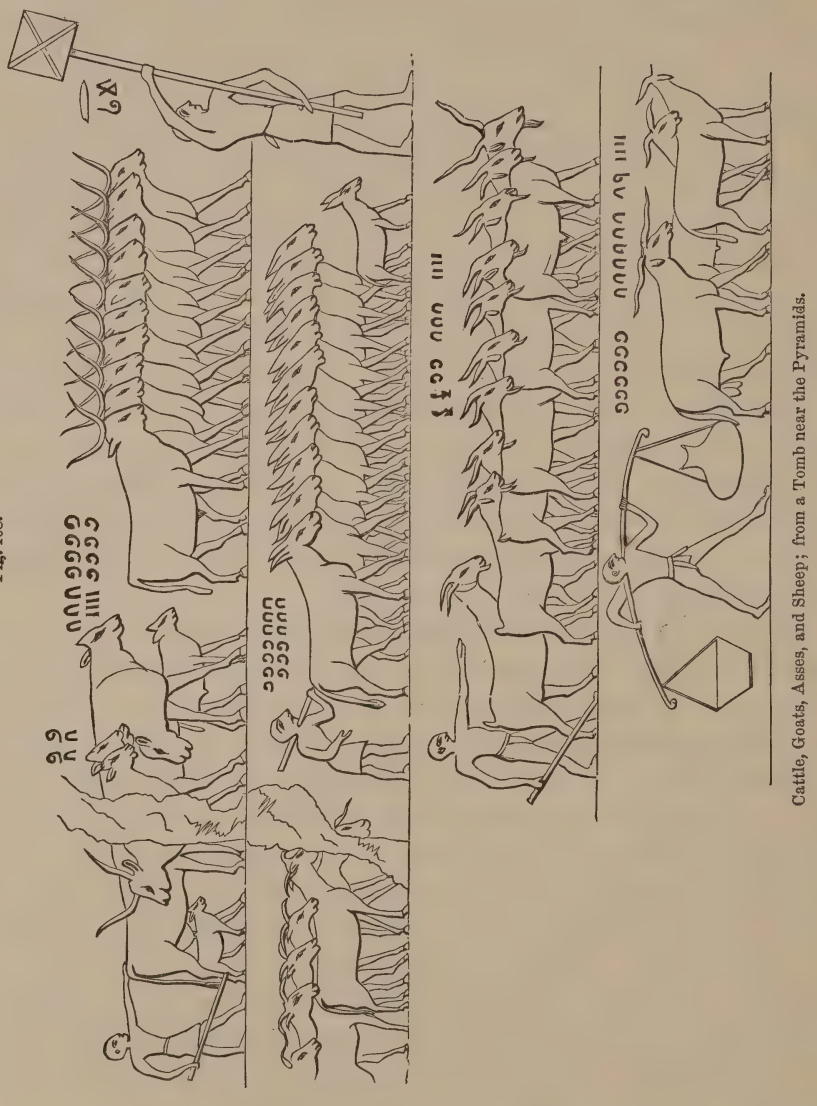
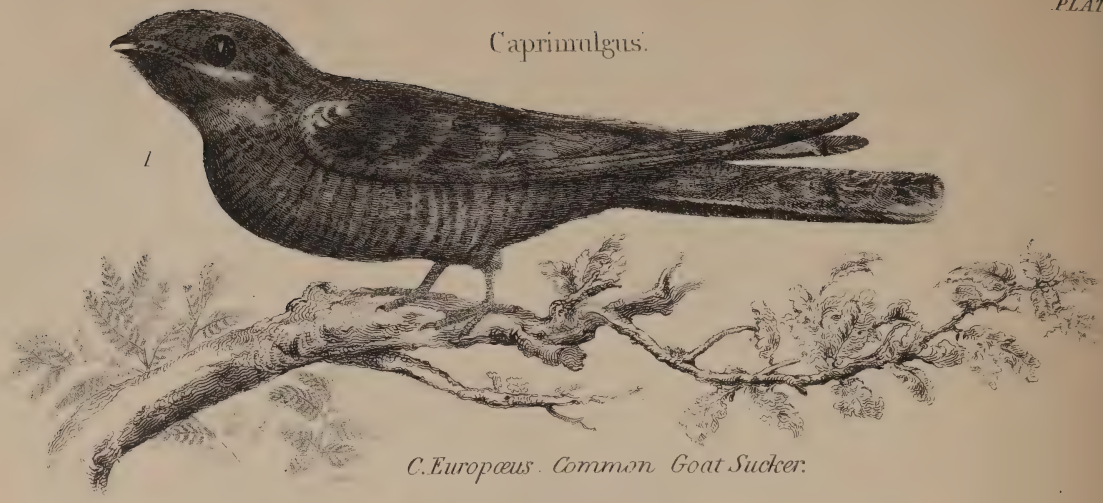


Fig. 108. Cattle, Goats, Asses, and Sheep; from a Tomb near the Pyramids.

Though it has long been customary to trace the antipathy to shepherds to the oppression and cruelty heaped on the Egyptians by the foreign conquerors known as the Hycsos, or Shepherd Dynasty, there are several circumstances left unexplained on this theory. The expression, "every shepherd is an abomination unto the Egyptians," shows

Caprimulgus.



1

C. Europœus. Common Goat Sucker.

DEUT. XIV. 15.

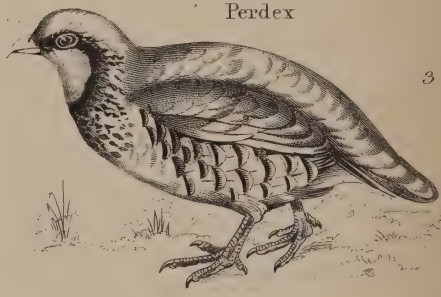
Upupa

2

U. Epops. *Hoopoe.*

DEUT. XIV. 18

Perdex



3

Perdex rubra — *Red legged Partridge*

1 SAM. XXVI. 20.

4

Phalacrocorax.

Phal. Carbo. — *Cormorant.*

DEUT. XIV. 17.

Ciconia.

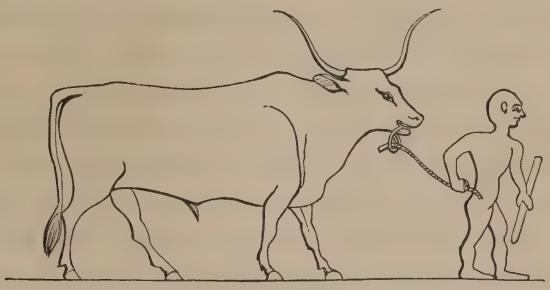
5

C. Alba — *White Stork.*

JER. VIII. 7.

that the contempt and hatred of the class were not confined to foreign shepherds like the Hycsos. If their tyranny and oppression called out dislike to strangers of the same profession, it does not naturally follow that their own countrymen of this class would be hated likewise. Wilkinson's account suggests the most likely explanation. The shepherds proper were taken from a class which has ever been despised in heathen lands—the poorest of the community, and these very commonly deformed, dirty, and diseased. A fragment of Manetho's history preserved by Josephus (*Against Apion*, b. i.) is curiously corroborative of this supposition. Amenophis, he tells us, gathered together out of

Fig. 109.



A deformed Oxherd; Tombs near the Pyramids.—(*Wilkinson.*)

Egypt all that laboured under any defect of body, and sent them to the quarries on the east side of the Nile. The nomadic shepherds from the wilds of Arabia, in the long-run leagued with the "unclean people," and rebelled against the king, having obtained help from Jerusalem. Here, as in other fragments of Manetho's history which have come down to us, rays of truth are met with in the midst of manifest absurdities. He appears to have tried to explain the attitude of the Egyptians to the deformed, the leprous, and the unclean, by the tradition that they had joined the enemies of their country. But, perhaps, all that is to be drawn from verse 34 is, that this class of people were regarded with detestation from motives like those which influence the Chinese and Hindoos even at this day against the swineherds, and which are recognized by our Lord himself in the parable of the prodigal son (Luke xv.) The value of this alternative suggestion will be seen when it is remembered, that recent researches into Egyptian chronology go to indicate the likelihood that the governorship of Joseph fell during the Hycsos dynasty itself. If this were clearly made out, the explanation now proposed would meet the difficulty. Here was a whole tribe of shepherds about to settle in a land where the class was disliked. Reasons of state led Pharaoh to anticipate the difficulty, and thus they

were located in *Bucolia*, or Goshen, the district whose pastures supplied food in abundance for flocks. As if he had said to Joseph—Let them dwell there, until they gradually show the Egyptians that they are not like the class which they heartily despise.

The district in which they were located was a highly fertile one, but evidently much disturbed, from its situation as the eastern frontier, ever exposed to the attacks of the roaming, warlike nomades of the desert. The very character of Jacob's family, as itself that of a wandering chief, would secure for it, from these children of the wilderness, a respect which they would refuse to the Egyptians. The locality is still the most fertile in Egypt. "The land of Goshen," says Dr. Robinson, "was 'the best of the land;' and such too the province esh-Shŭr-kiyeh has ever been, down to the present time. In the remarkable Arabic document translated by De Sacy, containing a valuation of all the provinces and villages of Egypt in the year 1736, the province of the Shurkiyeh comprises three hundred and eighty-three towns and villages, and is valued at 1,411,875 dinars—a larger sum than is put upon any other province, with one exception. During my stay in Cairo I made many inquiries respecting this district, to which the uniform reply was that it was considered as the best province in Egypt. Wishing to obtain more definite information, I ventured to request of Lord Prudhoe, with whom the Pasha was understood to be on a very friendly footing, to obtain for me, if possible, a statement of the valuation of the provinces of Egypt. This, as he afterwards informed me, could not well be done; but he had ascertained that the province of the Shurkiyeh bears the highest valuation, and yields the largest revenue. He had himself just returned from an excursion to the lower parts of this province, and confirmed, from his own observation, the reports of its fertility. This arises from the fact that it is intersected by canals, while the surface of the land is less elevated above the level of the Nile than in the other parts of Egypt, so that it is more easily irrigated. There are here more flocks and herds than anywhere else in Egypt, and also more fishermen. The population is half migratory, composed partly of Fellahs, and partly of Arabs from the adjacent deserts, and even from Syria, who retain in part their nomadic habits, and frequently remove from one village to another. Yet there are many villages wholly deserted, where many thousands of people might at once find a habitation. Even now another million at least might be sustained in the district, and the soil is capable of higher tillage to an indefinite extent."

GENESIS XLVIII.-L.

A MESSENGER went to Joseph with the tidings, "Behold, thy father is sick. And he took with him his two sons, Manasseh and Ephraim." When the father and son met, "Israel beheld Joseph's sons, and said, Who are these? And Joseph said unto his father, They are my sons, whom God hath given me in this place. And he said, Bring them, I pray thee, unto me, and I will bless them. (Now the eyes of Israel were dim for age, so that he could not see.) And he brought them near unto him; and he kissed them, and embraced them. And Israel said unto Joseph, I had not thought to see thy face: and, lo, God hath shewed me also thy seed" (ver. 8–11). Having blessed Joseph he turned to his sons, saying—"The Angel which redeemed me from all evil, bless the lads; and let my name be named on them, and the name of my fathers Abraham and Isaac; and let them grow into a multitude in the midst of the earth" (ver. 16). Our translators have given in the margin "*Let them as fishes increase into a multitude,*" as the alternative rendering of the original for "grow into a multitude." The expression deserves to be noticed. The writers of Scripture were all close observers of nature; so likewise were most of those whose experience they record. Jacob when he wandered to the shores of the Great Sea, or when he lingered with his flocks in the valley of the Jordan, or wandered to the deep-flowing Nile, had been struck with the rapidity with which the number of fishes increased, and now he longs that Joseph's children should increase as they. Most fishes, and especially such as man uses for food, are very prolific. The eggs of the cod (*Morrhua callarias*) are above nine millions. Those of the salmon (*Salmo salar*) are reckoned as more than twenty thousand. Looking at Joseph's sons in the light of this blessing, their progeny is seen to have been far more numerous than even the favoured tribe of Judah itself. Like the fishes they increased in multitude. "In the second year after the departure from Egypt they counted 72,700 warriors, whilst the tribe of Judah consisted only of 47,600 (Num. i. 27, 33, 35); at the end of the wanderings, when the census was taken in the plains of Moab, their number was 85,200 against 76,500 of Judah (Num.

xxvi. 22, 34, 37); their influence was powerful enough to cause some important modifications in the social and agrarian constitution of the people (Num. xxxvi. 1–5); and the number of the soldiers capable of assisting David in the establishment of his dynasty was 38,800, exclusive of the men of Manasseh in the east of the Jordan; whereas the armed force of Judah is stated at 6,800" (1 Chr. xii. 24, 30, 31, 37). Jacob's death-bed address and prophecy (chapter xlix.) are explained under Deut. xxxiii., which see.

Like one looking for the resurrection, Jacob gave strict orders concerning the place and manner of his burial—"And when he made an end of commanding his sons, he gathered up his feet into the bed, and yielded up the ghost, and was gathered unto his people." Joseph then gave orders to his servants the physicians to embalm his father; and the physicians embalmed Israel (ver. 2). Medicine was practised as an art in Egypt at a very early period. Egyptian skill in mixing drugs is described in the Homeric poems:—

> "These drugs
> Bright Helen learned from Thone's imperial wife;
> Who sway'd the sceptre where prolific Nile
> With various simples clothes the fattened soil."—(*Odyss.* b. iv.)

"The Egyptians," says Wilkinson, "according to Pliny, claimed the honour of having invented the art of curing diseases. Indeed, the study of medicine and surgery appears to have commenced at a very early period in Egypt, since Athothes, the second king of the country, is stated to have written upon the subject of anatomy; and the schools of Alexandria continued to a late period to enjoy the reputation, and display the skill, they had inherited from their predecessors." Herodotus says, "All places abound in physicians; some physicians are for the eyes, others for the head, others for the teeth, others for the parts about the belly, and others for internal disorders" (b. ii). The prominence given to the healing art in that land, in the time of Jeremiah, led him to say—"O virgin, the daughter of Egypt: in vain shalt thou use many medicines; for thou shalt not be cured" (xlvi. 11).

The physicians were appointed by, and kept under control of, the government. It is clear from this passage that the embalmers constituted one grade of the medical profession. Though in several other nations this art, under various modifications, was practised to a limited extent, embalming may be regarded as characteristically Egyptian. The process is minutely described by Herodotus (b. ii.), and by Diodorus

Siculus (b. i.) The former remarks:—"First they draw out the brains through the nostrils with an iron hook, taking part of it out in this manner, the rest by the infusion of drugs. Then with a sharp Ethiopian stone they make an incision in the side, and take out all the bowels; and having cleansed the abdomen and rinsed it with palm-wine, they next sprinkle it with pounded perfumes. Then having filled the belly with pure myrrh pounded, and cassia, and other perfumes, frankincense excepted, they sew it up; and when they have done this, they steep it in natrum, leaving it under for seventy days; for a longer time than this it is not lawful to steep it. At the expiration of the seventy days they wash the corpse, and wrap the whole body in bandages of flaxen cloth, smearing it with gum, which the Egyptians commonly use instead of glue. After this the relations, having taken the body back again, make a wooden case in the shape of a man, and having made it, they inclose the body; and thus, having fastened it up, they store it in a sepulchral chamber, setting it upright against the wall. In this manner they prepare the bodies that are embalmed in the most expensive way. Those who, avoiding great expense, desire the middle way, they prepare in the following manner. When they have charged their syringes with oil made from cedar, they fill the abdomen of the corpse without making any incision or taking out the bowels, but inject it at the fundament; and having prevented the injection from escaping, they steep the body in natrum for the prescribed number of days, and on the last day they let out from the abdomen the oil of cedar which they had before injected, and it has such power that it brings away the intestines and vitals in a state of dissolution; the natrum dissolves the flesh, and nothing of the body remains but the skin and the bones. When they have done this they return the body without any further operation. The third method of embalming is this, which is used only for the poorer sort: having thoroughly rinsed the abdomen in syrmæa, they steep it with natrum for the seventy days, and then deliver it to be carried away."

Diodorus says—"The funerals of the Egyptians are conducted upon three different scales—the most expensive, the more moderate, and the humblest. The first is said to cost a talent of silver (about £250 sterling); the second twenty-two minæ (or £60); and the third is extremely cheap. The persons who embalm the bodies are artists who have learnt this secret from their ancestors. They present to the friends of the deceased who apply to them an estimate of the funeral expenses, and ask them in what manner they wish it to be performed;

which being agreed upon, they deliver the body to the proper persons appointed to that office. First, one, who is denominated the scribe, marks upon the left side of the body, as it lies on the ground, the extent of the incision which is to be made; then another, who is called *paraschistes* (the *dissector*), cuts open as much of the flesh as the law permits with an Ethiopian (flint) stone, and immediately runs away, pursued by those who are present, throwing stones at him amidst bitter execrations, as if to cast upon him all the odium of this necessary act. For they look upon any who has offered violence to, or inflicted a wound or any other injury upon a human body, to be hateful; but the embalmers, on the contrary, are held in the greatest consideration and respect, being the associates of the priests, and permitted free access to the temples as sacred persons.

"As soon as they have met together to embalm the body thus prepared for them, one introduces his hand through the aperture into the abdomen, and takes every thing out, except the kidneys and heart. Another cleanses each of the viscera with palm-wine and aromatic substances. Lastly, after having applied oil of cedar and other things to the whole body for upwards of *thirty* days, they add myrrh, cinnamon, and those drugs which have not only the power of preserving the body for a length of time, but of imparting to it a fragrant odour. It is then restored to the friends of the deceased. And so perfectly are all the members preserved, that even the hairs of the eyelids and eyebrows remain undisturbed, and the whole appearance of the person is so unaltered, that every feature may be recognized. The Egyptians, therefore, who sometimes keep the bodies of their ancestors in magnificent apartments set apart for the purpose, have an opportunity of contemplating the faces of those who died many generations before them; and the height and figure of their bodies being distinguishable, as well as the character of the countenance, they enjoy a wonderful gratification, as if they lived in the society of those they see before them."

Sir G. Wilkinson shows that these accounts are, in their general features, true. With reference to some of the statements of Diodorus, he remarks:—"The sum stated by Diodorus of a talent of silver, can only be a general estimate of the expense of the first kind of embalming; since the various gradations in the style of preparing them prove that some mummies must have cost far more than others; and the sumptuous manner in which many persons performed the funerals of their friends, kept pace with the splendour of the tombs they made, or purchased for their reception. The execrations with which the

paraschistes was pursued could only have been a religious form, from which he was doubtless in little apprehension; an anomaly not alto-

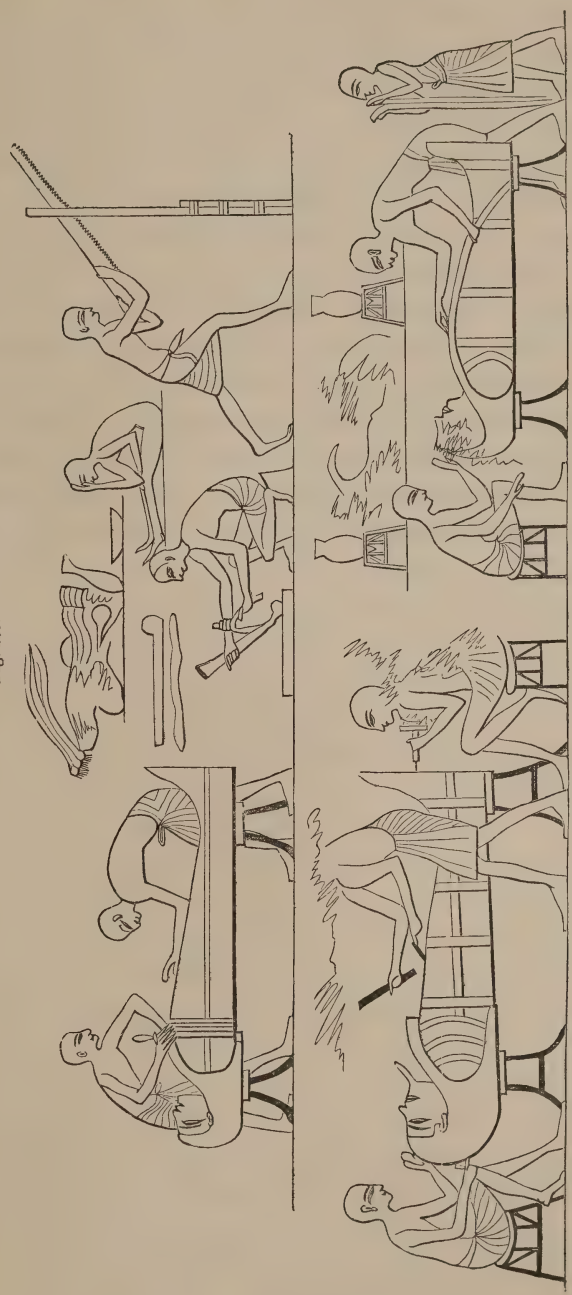


Fig. 110. Bandaging Mummies, and making the cases.—(*Wilkinson.*)

gether without a parallel in other civilized countries. Diodorus is in error when he supposes the actual face of the body was seen after it

was restored to the family; for even before it was deposited in the case, which Herodotus says the friends made for it, the features, as well as the whole body, were concealed by the bandages which enveloped them. The resemblance he mentions was in the mummy case, or the cartonage which came next to the bandages; and, indeed, whatever number of cases covered a mummy, the face of each was intended as a representation of the person within, as the lower part was in imitation of the swathed body. With regard to the question when the custom of embalming the body ceased in Egypt, it may be observed that some are of opinion that it ceased at an early time, when Egypt became a Roman province. But this has been fully disproved by modern discoveries; and it not only appears that the early Christians embalmed their dead, but, according to St. Augustine, mummies were made in his time, at the beginning of the fifth century. The custom may not have been universal at that period; and it is more probable that it gradually fell into disuse than that it was suddenly abandoned from any accidental cause connected with change of custom, or from religious scruple."

ON THE ANTIQUITY OF MAN, AND THE THEORY OF PRE-ADAMITE MEN.

LORD BACON, when characterizing the haste of those who rush to broad generalizations from the knowledge of a few, random, isolated facts, says—"This kind of experience is nothing but a loose faggot, and mere groping in the dark, as men at night try all means of discovering the right road, whilst it would be better and more prudent either to wait for the day or procure a light, and then proceed" (N. O. Aph. 82). If this remark were appropriate when the barren logic of the schools was thought equal to the discovery of all truth, when opinion was put in the place of argument conducted after a sound method, and when natural science was, in this country, no better than a confused heap of speculations on the works of creation, it has not ceased to have a profound meaning still. Few can treasure up facts and hold observations in suspense, without drawing from them conclusions which nothing but perfect knowledge can warrant. A true light might indeed be procured by increased observation, and by the discovery of co-related facts which might show the absurdity of such conclusions. But it is hard to wait.

It might seem very unlikely that an age such as ours should be prone to err in this way, when great prominence is given to true methods of investigation in the study of the works of God. But every man familiar with almost any branch of natural science knows, that most pages of its history illustrate the quaint words of Bacon. Its students have been forward to generalize on slender evidence and doubtful phenomena, rather than prudently to wait for the day, or to procure an unerring light by a full knowledge of particulars.

The present subject is fruitful of illustrations. In treating it I shall briefly state the importance of the question by indicating those general beliefs on which it impinges directly, or contradicts. It is believed, 1st, That we have the only true account of the creation of man in the first chapter of Genesis; 2nd, That the opening verses of Genesis ii.

refer to the same man named in ch. i.; 3rd, That the creation of Adam and Eve took place about B.C. 4004; 4th, That from them all the families of mankind are descended, and 5th, That the Adamic race was acknowledged as the only race of man in the great and gracious plan of redemption. Thus the theory to be discussed brings us at once into the very heart of interest the most momentous that can be proposed to man. Though no apology is needed for giving this prominence to it, there are one or two things which should be stated in order to clear the ground.

It has often been alleged, that all who mix up the Bible with the discoveries of science, and with discussions, often keen and bitter, resulting therefrom, are neither the best of friends to that best of all books, nor deeply imbued with the spirit of scientific research. A multitude of well-meaning but weak men, whose charity is so wide that they let the enemies of revelation think for them, are led away by such statements. But put aside the haze which hangs over this question! Is it possible for any man to pursue science aright without thinking of that personal Creator whose works science deals with? And if you think of Him, it must become a matter of interest to you to know, that he whose mind is seen in his works has revealed to us his heart in the Scriptures. Why should men try to forget that creation and Holy Scripture are the twofold revelation of one God? The true Christian will ever rejoice over the true man of science, and smile on his labours. It is not, however, forgotten that there are narrow-minded theologians, just as there are narrow-minded men of science; and perhaps the latter are even more suspicious of the dogmas of the former than the theologian is of the theories of the man of science. The true state of matters should not be concealed. There are many workers in the wide, rich fields of present science who are constantly anxious to give their observations theological bearings of a most pernicious kind, but who cry out in alarm the moment a brother worker demands distinctly to be heard on the merits. They demur to the theological views, and everywhere urge the point, "Why refer to the Bible at all?"

Touching the subject now before us, it would be impossible for any man who believes the Bible to be the Word of God, to shake himself free from the influence of revealed truth on his own mind. Should he imagine that he can put off the deepest convictions of his spiritual nature, and judge dispassionately of topics in which the very foundations of his belief are interested, he deceives himself as thoroughly as the mere student of science would do, who, while he is consciously an

Vulpes.

V. Vulgaris. Fox.

NEH. IV. 3: LUKE IX. 58.

Canis

C. Lupus. Wolf.

HAB. I. 8.

C. familiaris. Var Thibeti Thibet Dog

JUDGES VII. 5: PROV XXVI. 11.

unbeliever in the inspiration of the Word, would hold himself equal to determine impartially points on which his theories are at issue with Scripture statements. I say *his* theories, for all true science is in complete harmony with revelation.

The theory of a race of pre-Adamite men appeals to three great branches of knowledge for confirmation—namely, Archæology, Geology, and Scripture. The last, however, is appealed to by a few only. The review of these will set the subject fully before us. The necessity for such a wide discussion will be apparent. Recent researches in the fields now named have created a wide-spread impression, that the hitherto recognized date of man's creation must be given up. This has led to unwise attempts to preserve the chronology of the Adamic race entire by linking up the traces of human art, in the remote antiquity pointed to, with another race of whose origin no account has come down to us. In characterizing these researches, this state of matters is kept constantly in view. Of course it is to be borne in mind throughout, that they have been for the most part conducted by men who have given no opinions as to a plurality of races, but who simply hold that the discoveries demand a date for man on the earth far more remote than that generally assigned to him. Others try to save us, as they think, from the consequences by adopting the theory of a pre-Adamite race.

I. Archæology.—In the application of the principles of historical criticism to antiquities, the modern archæologist has reached a threefold generalization. Articles used by man in the industrial arts and in war are classified under great epochs. Thus we have—1st, The Stone Period; 2nd, the Bronze Period; and 3rd, the Iron Period. This classification may be accepted in connection with the topic now under notice. It has, however, already been shown, that there are grave objections to this, and that to apply it rigidly would often land us in most extravagant conclusions. Suppose, for example, that the hosts led by Joshua against Jericho had received no place in authentic history, but had continued unknown, as so many eastern tribes have done; and that a modern antiquary had discovered under eight or ten feet of earth "the knives of flint" (Josh. v. 2) made use of in the general circumcision which took place before going up against the doomed city—these knives of flint, he would argue, were used by a tribe to whom the metals were unknown, a tribe who had passed away ages before even the foundations of mighty Nineveh were laid!

Again, we have seen that in the description of the five millions led

by Xerxes against Greece, Herodotus mentions not only tribes whose breasts were protected with scale armour, and those who had helmets of brass, and such as had scimitars, long and short iron spears, &c., but those also who, as the Asiatic Ethiopians, "were clothed in panthers' and lions' skins, who carried arrows of cane, tipped with stone instead of iron—stone," he says, "of that sort on which they engrave seals"—species of quartz, the very same as that from which many of the British arrow-heads of the so-called Stone Period were made.

Researches into the remains of the Stone Period, conducted by some of those who have complete faith in this classification, have gradually thrown back the history of primeval man to a date hitherto undreamed of in history, either sacred or profane. It is true that years are not named; but such expressions as "ages before the first page of history was written," "thousands of years before we have traces of man from any other quarter," "immense antiquity, to which the foundation of Nineveh is but as yesterday," and the like, show what impressions are looming in the mists. Even many good people are suspicious of any attempts to bring such thoughts fully into the light. They have a certain ill-defined dread that, after all, they may turn out too true!

Sir Charles Lyell's recent work, "The Geological Evidences of the Antiquity of Man," gives a prominence and importance to this question which biblical scholars must consider. The work is not characterized by the author's usual precision and order. It contains, however, a mass of information brought from many quarters, and it sets the whole subject fairly enough before readers. The remarks which follow were written before the publication of Sir Charles Lyell's volume, with most, I may say all, of the material before me referred to in it. On reconsidering the views urged here, in the light of Sir Charles Lyell's remarks, I have seen no reason to alter any of them.

The chief parts of the articles of this period used in domestic life, in the chase, and in war, were all made of stone, mainly flint, though different kinds of quartz, and one or two other minerals, were also used. These have been discovered—1st, In cromlechs, and in graves a few feet deep in earth, acknowledged by all to be surface and undisturbed; 2nd, In heaps of refuse at places near to which primeval man had sojourned for a period; 3rd, In the mud at the bottom of lakes in which pile habitations had been erected; and 4th, In superficial deposits whose formation and geological age are still matters of controversy.

We may pass by the first of these places of deposit, and glance at the second and third, with a view of giving a fuller notice of the fourth,

in connection with which the theory of the existence of a race of men before Adam has chiefly been raised.

2nd. *Stone Articles discovered in Refuse-Heaps.*—These heaps occur in Denmark. They have been made known to us by Professors Steenstrup, the zoologist, Forchhammer, the geologist, and Worsäe, the antiquary, as the kjökkenmöddings, or pre-historic "kitchen middens" of Denmark. These dust-heaps are all found near the sea. One farthest from the shore is only eight miles distant. They vary from three to ten feet deep, are sometimes three hundred yards long, and from one hundred and fifty to two hundred feet broad. They are made up of shells, flint implements, and the bones of animals. The shells are chiefly those of full-grown oysters (*Ostrea edulis*), cockles (*Cardium edule*), mussels (*Mytilus edulis*), and periwinkles (*Littorina littorea*). The flint instruments are mainly such as would be used by rude tribes in the chase and in war. The bones are those of the stag (*Cervus elephas*), the roedeer (*C. capreolus*), the wild bull (*Bos urus*), the wild boar (*Sus scrofa*); those of the dog (*Canis familiaris*), the wolf (*C. lupus*), the fox (*C. vulpes*), the wild cat (*Felis catus*), the lynx (*F. lynx*), and a few others not so common. Bones of several species of birds have also been identified, as the wild swan (*Anas cygnus*), the great auk (*Alca impennis*), and the capercailzie (*Tetrao urogallus*). No human bones have been discovered in these heaps.

The Danish archæologists conclude from these *kjokkenmoddings* that the people who formed them were savages, that they lived at a very remote period of the Stone Age, because the implements found in them are inferior to most of those obtained from tumuli belonging to a later stage of the same epoch, and that the presence of the bones of the capercailzie point to a time when Denmark was covered with pine forests. This last inference has been strongly put by Mr. J. Lubbock (Nat. Hist. Rev., Oct. 1861).

The first inference revives the old theory of the original savage state of man. Sir Charles Lyell puts this very broadly. "Had," he says, "the original stock of mankind been really endowed with such superior intellectual powers, and with inspired knowledge, and had they possessed the same improvable nature as their posterity, the point of advancement which they would have reached ere this would have been immeasurably higher. We cannot ascertain at present the limits, whether of the beginning or the end of the first stone period, when men co-existed with the extinct mammalia, but that it was of great duration we cannot doubt. During those ages there would have

been time for progress of which we can scarcely form a conception, and very different would have been the character of the works of art which we should now be endeavouring to interpret—these relics which we are now disinterring from the old gravel-pits of St.-Acheul or from the Liége caves. In them, or in the upraised bed of the Mediterranean, on the south coast of Sardinia, instead of the rudest pottery or flint tools, so irregular in form as to cause the unpractised eye to doubt whether they afford unmistakable evidence of design, we should now be finding sculptured forms, surpassing in beauty the master-pieces of Phidias or Praxiteles; lines of buried railways or electric telegraphs from which the best engineers of our day might gain invaluable hints; astronomical instruments and microscopes of more advanced construction than any known in Europe, and other indications of perfection in the arts and sciences, such as the nineteenth century has not yet witnessed." Now, there were some force in these remarks if we could fit the natural history of man into the Darwinian theory. But every attempt at this has proved lame and impotent. The last attempt is no exception. Man's natural history continues an unfathomable mystery when the testimony of the Bible is refused. Each theorist, who tries to decide the whole question on independent scientific grounds, is doomed to pass off the stage, with the words following him which were once spoken of an eminent judge—

> "Chief-Justice Parker
> Has made that darker
> Which was dark enough before!"

We must take something else into account than man's "superior intellectual powers." The present condition of his moral nature must be considered. In this we will find how it is that he has not been yet "developed up to a god." The history of every nation points to progress up to a certain point, and then to retrogression. Sin is the great disturber, and it acts in curious ways. Take Greece as an example. Learning, refinement, the triumphs of art, the fruits of a widely and highly cultivated imagination, bore testimony in the best days of that country to an advanced civilization. Had the development continued, what would it now have been? But this very civilization gave an indirect power to conscience which it could not have assumed among an ignorant people. They still desired more, even if it were only an "unknown god." To escape from their unrest they betook themselves to every kind of licentiousness; in a word, they cultivated those very

animal passions which were to rise and overmaster all intellectual attainments. The progress was to be stopped, and they were to be thrown back to the starting-point. Thus it has been with the world. There is an exception. Life in a Saviour gives permanence to progress. But few see this.

As regards the other inferences, which imply a belief in a very remote antiquity for these heaps, we notice—

1. Their formation. Are they, after all, proved to be heaps formed by men who must have sojourned for many generations beside them? It is to be borne in mind, that until a comparatively recent period they were regarded as natural. Indeed, doubt exists even still as to one or two of them, which present rough layers of sand and gravel in their composition. Might not water action, in a shifting condition of a shore noted for its changes, have swept them into form, embedding the less useful instrument left by man near the sea, and the remains of mollusc, fish, beast, and bird, on which he had fed? Or if in every respect artificial, may they not have been formed in a far shorter time by multitudes of men than what is claimed for them on the supposition that the people were comparatively few, and that the gathering must have been the work of ages? Little positive stress is laid on these queries. They are put simply to show, that the ground is not so clear as some imagine for claiming antiquity for the kjökken-möddings which would at least take us back to a period prior to that generally assigned to the deluge.

2. Their position. They stand on a coast universally acknowledged as not stationary. It is next to certain that the waves have rolled over one of them. This has been accounted for by the hypothesis, that the waves were once more powerful on that shore than they are now, and rolled their waters farther inland. But this hypothesis gives great uncertainty to the whole matter. Such abnormal action may have been of a comparatively recent date, and may have brought these remains of the past, found in surface earth, into curious relationships. But again, granting everything on this point which the advocates of a greatly protracted period for their formation demand, such heaps do not in reality determine anything with certainty touching the great antiquity of the tribes who fed chiefly on shellfish, and used weapons of flint. They do, however, tell a very plain tale of their isolation from that great centre, whence rolled those waves of population which went to replenish the whole earth. Had, for example, the mutineers of the *Bounty*, in 1789, been obliged to take to a boat, and been driven on Pitcairn Island

without any modern implements, they would have been forced to form the compact lava of the island into articles for use. It was quite within the range of probability, that, after a few years, every man should have perished. Their bones might then have been laid among the shingle on the shore, and ultimately been swept into the ocean. The finders of their rude weapons would have reasoned absurdly, had they come to any conclusion as to the great antiquity of the men who had formed the weapons. All that the fact could have told would have been the story of isolation from centres of thought and civilization: nothing more. Indeed, our supposition was realized, though in a different way. When the mutineers landed on Pitcairn, they found stone hatchets, stone spear-heads, and even a large stone bowl, telling the tale of some little company who had been thus driven away from their native shores and left to perish on that island. This consideration should not be lost sight of. It has important bearings on several recent archæological generalizations.

3. Their animal remains. These all belong to species which are still found in Northern Europe, or to species which are known to have lived in the true recent historic period. Of those not now met with in the localities referred to, two may be noticed. The oyster has disappeared from that coast, but it is certainly known to have been far from rare within the last sixty years. The late Professor Fleming was among the last who described the great auk from observation. It is now generally believed to be extinct. The capercailzie is not at present met with in a wild state in Denmark. Now, I would be far from hinting, as has so often been done, that the association of these remains with stone instruments should, as in the case of those of the capercailzie, lead to the conclusion, that they perished with the introduction of the next period. I would rather reason thus:—If in half a century two forms of life at least have looked their last and ceased from among the living, in localities where they once abounded, we are not warranted to affirm a remote antiquity of these heaps, merely because we discover in them the remains of animals of whose presence in such localities we have no record within the period of written history. Suppose the great auk had become extinct before any systematist had given it a place in his pages, and that its bones came to be found in a heap, where rude instruments of stone were imbedded, would it have been wise to conclude that it ceased with the end of the stone period? Yet this is virtually the mode in which we are asked to give credit to most extraordinary inferences. Again, we are told the capercailzie feeds on the

shoots of the pine-tree. Its bones are found in the kjökkenmöddings; therefore when they were formed Denmark must have been covered with pine-trees! This supposition, it is said, finds corroboration in the peat soil of the country. Deepest down in the moss you meet with pine-trees, above these oaks, and above the oaks beech-trees occur. Here, then, Denmark had its age of pines, then of oaks, and now it has its period of beeches! The men who have left their mark on these heaps must thus have lived at the time when the pine forests covered Denmark—forests which have left clear traces of their presence in the peat of the country. Such inductions scarcely need to be characterized. Suppose our squirrel (*Sciurus vulgaris*) were in a few years to cease from lowland Scotland, as the raven and one or two other birds of prey have done within the last thirty years, and that, after a period of sixty years, its bones should be found in a refuse-heap, into which a knife, a silver spoon, and a cork-screw had found their way. An enthusiastic young naturalist having his attention drawn to it, reasons thus:—"Where our peat-mosses reach a depth of ten feet, I have noticed that, at the bottom of these there are many shells of the hazel-nut, and traces of its wood. Overlying these the silver birch has left its roots and branches buried in the peat, and higher up still the oak is found entombed. Scotland was thus once covered with the hazel, a period of birches succeeded, and then one of oaks. It is, however," he continues, "a well-ascertained fact that, strictly speaking, the hazel ceased at the time at which the bottom bed of peat was laid down, though it is still to be met with here and there over the country, in localities peculiarly favourable to its continuance. The squirrel, it is well known, subsisted chiefly on the nuts and the tender shoots of the hazel. At what period, then, did it cease over this area? Happily," continues the observer, "we can get somewhat near the truth on this question. The rate at which peat soil is formed is about one foot in two hundred years. Here we have ten feet, and in the lowermost layer occur the nuts of the hazel. But the squirrel must have perished at the same time as the general destruction of the hazels. Therefore, as the knife, the spoon, and the screw are found beside the bones, they must be of the same age—they must, say, to keep within the mark, be about two thousand years old!" Yet, on reasoning not a whit more satisfactory, men gravely ask us to renounce all chronology which is not based on such observations.

The only traces of domestic animals met with in these heaps are the bones of the dog. Those of the ox, sheep, goat, and horse, are absent.

This fact is highly suggestive. The time is not long gone by, when the only remains of our domestic animals which would have been found along with traces of man in some of our own colonies, would have been those of the faithful dog. Yet it would have been extreme folly to argue, that these men were ignorant of the use of the ox, sheep, and horse, or that they lived at a period when these animals had not been brought wholly under man's power. The very presence of bits of earthenware in the heaps, indicates that the people had come from a quarter where the industrial arts were cultivated.

I conclude, then, from this review—(1) That the absence from the kjökkenmöddings of articles characteristic of a higher civilization than those are which have been found, does not prove that such did not exist. If the dust-heaps of any of our large towns shall be taken by the followers of Lord Macaulay's chief who is destined to contemplate the ruins of St. Paul's from a broken arch of London Bridge, as supplying evidences of what nineteenth century civilization was, we can only, prospectively, wish the conquerors from the antipodes joy of their discoveries! (2) That the existence of a people using stone weapons is no proof either that they or their fathers had been unacquainted with metals. It only implies that when drifted into localities in which metals could not be found, or, if found, could not be pressed into use, they used stone as a substitute. Illustrations of this might be given from the habits of the South Sea Islanders. While in many cases the islanders use only instruments of stone, the parent tribes on the continent are familiar with the metals. (3) That there is nothing about these heaps suggestive of a higher antiquity to the men who formed them, than has been generally assigned to the tribes whose remains have been discovered in cromlechs and in surface tumuli—an antiquity in nowise at variance with received chronology. (4) That the heaps say nothing touching the question of a plurality of races. A good deal has no doubt been made of certain crania, held by their discoverers to synchronize with the stone instruments of the kjökkenmöddings, and to represent a race contemporary with the extinct animals of pre-glacial times; but the foundation alleged for such suppositions is most unsatisfactory.

3rd. *Articles found in Mud at the bottom of Lakes in which Pile Habitations had been erected.*—The builders of these had, for the sake of security, either from other tribes or from the beasts of prey which then abounded, driven great stakes into the earth below the water, formed a platform on these, and on this built their houses. This plan

Canis

C. Aureus Jackal.

Felis.

F. Leo. Lion.

F. Tigris. Tiger.

PSAL. LXIII. 10: JUDG. XIV. 8: ISA. XXXV. 9.

is still followed by certain tribes in New Guinea. In the years 1853 and 1854 the dryness of the season caused the waters in the Swiss lakes to fall to a very low level. In mud dredged from the lake of Zurich for industrial purposes, stone implements, the horns of more than one species of deer, artificial stakes, &c. were found. This led to speculation, inquiry, and research. The mud of other lakes was dredged, and similar discoveries made. In the long run, the archæologists concluded—(1) That these were the remains of pile habitations—the *Pfahlbauten* of the Germans, *Habitations lacustres* of the French, and the *Cranoges* of the Irish antiquaries; (2) That the tribes by whom they were raised belonged to the so-called Stone Period, and that a very remote antiquity is to be affirmed of them; (3) That some of them continued down to the Bronze Period.

Grouping the Swiss lakes together, there have been discovered in them thirty-two species of mammals, eighteen species of birds, two of reptiles, and ten species of fishes. The plants found are, two varieties of cereals, one of wheat, the other of barley, nine forest trees, five wild fruit-bearing shrubs, one rush, one reed, flax, and hemp. Great numbers of flint instruments used in the chase and in war have also been obtained. The names of the antiquaries specially associated with these discoveries, are those of MM. Morlot, Troyon, Keller, Jahn, and Uhlmann. The first-named has confidently ventured on the probable age of the periods represented by these implements associated with the traces of the lake habitations. They have been found in positions whose age, he thinks, may be calculated with great certainty; and here is his reckoning:—For the Bronze Period 4000 years, and for the Stone Period 7000 years. Now, suppose we give 2000 years to the Iron Period, which is far below the mark, we would have the startling aggregate of 13,000 years thrust on us, whereas the Scripture chronology of the human period is little more than half of this. Such rash assertions should be brought out of that haze, which to the majority of readers is wrapt around them, by the scientific nomenclature with which they are associated.

Glancing back on these details, there are one or two things of great interest, and highly suggestive, which greatly modify, if they do not wholly set aside, the value of these discoveries as bases for such conclusions:—

(1) The custom of building lake habitations is not of such high antiquity as many confidently suppose. In the description given by Herodotus (b. v., c. 16) of the conquests of Darius Hystaspes (Ezra iv. 5, &c.),

he refers to the campaign of one of his generals in Thrace and Macedonia, and his dealings with the inhabitants of Lake Prasius. The words of Herodotus are—"Yet he attempted to conquer those who live upon the lake in dwellings contrived after this manner: planks fitted on lofty piles are placed in the middle of the lake, with a narrow entrance from the main land by a single bridge. These piles that support the planks all the citizens anciently placed there at the common charge; but afterwards they established a law to the following effect:—Whenever a man marries, for each wife he sinks three piles, bringing wood from a mountain called Orbelus; but every man has several wives. They live in the following manner: every man has a hut on the planks, in which he dwells, with a trap-door closely fitted in the planks, and leading down to the lake. They tie the young children with a cord round the foot, fearing lest they should fall into the lake beneath." Here then we meet the custom of lake dwelling in Europe about 520 B.C. The date of their existence in other quarters might be brought down to our day. Their existence in Ireland at a time so recent as 1567 can be proved

(2) From one of the lakes two bits of *nephrite*, or *jade*, have been obtained. The variety is the green semi-transparent one, known as *Oriental nephrite*, which is not found native in Switzerland. It must have been brought from Asia, where it is still formed into ornaments and amulets, and worn by the people. The connection of these lake dwellers with the East—the cradle of the human race—is clearly indicated here.

(3) Of the two cereals found one is the six-rowed barley (*Hordeum hexastichon*), a variety obtained by the Greeks and Romans from Egypt, where it is still generally cultivated. This again points to a migration from the East.

(4) Small bits of twine and of nets formed of hemp and flax have been discovered. This certainly does not point to an antiquity of 13,000 years!

(5) The deposit from which the calculation of years has been made, is one lying near Villeneuve, at the point where the torrent of the Tinière falls into the lake of Geneva. This has in the lapse of time laid down a deep deposit of gravel. The calculation proceeds on the assumption, that the rate of deposit must have been in all time the same as it can be proved to have been since 1710. But this assumption is wholly unwarranted.

(6) This review of the pile habitations leads us to the same conclusion as did that of the dust-heaps. We have no proof of an antiquity

more remote than what has hitherto been assigned to the Stone Period —an antiquity which does not clash with deeply cherished beliefs as to the time when man appeared on the earth.

II. Geology.—The preceding remarks carry our minds back to a period when man's history in the north and west of Europe is lost in darkness. There is, however, nothing incompatible in the traces he has left of his presence with the history of our race preserved to us in Scripture. But the branch of the subject which now falls to be considered thrusts us, somewhat violently, into a region in which almost every alleged trace of man comes into collision with accepted views of time given us in the Scriptures. Why should this fact be hidden? Yea, why even should we not acknowledge that there are difficulties of a very grave kind implied in it? The acknowledgment does not imply what some imagine. It does not imply that when we make it, our confidence is shaken in the impression of time and the appearance of man gathered from the Bible; it only implies that in our ignorance some element is lost sight of which would have harmonized our conclusions with the utterances of the Word. But while difficulties are frankly acknowledged, we do not allow that any one of these, or all of them, cannot be met by an hypothesis which casts the burden of proof on science, and gives us rest until that be given. It has not been given yet, and we are persuaded never will, or even never can be given. I shall state candidly, and as strongly as possible, the state of the question, and remark on it afterwards. The subject comes before us in several aspects:—

1st. There are the conclusions formed from the rate of deposit of mud in the valley of the Nile. In 1858 Mr. Leonard Horner laid before the Royal Society a paper on this subject which gave rise to much controversy, and which, there is good reason to believe, was highly influential in giving a strong bias to several young geologists especially. The startling propositions in that paper were not new. As we shall see Baron Bunsen had already taken up the same views on independent historical ground.

An intelligent Egyptian, who had been educated in England, was employed by Mr. Horner to perforate the mud in the Nile valley. This was done in ninety-one places over an area extending from east to west about sixteen miles. At a depth of from thirty-six to forty feet it was found that the mud is the same as that being laid down at the present day. At a period represented by the lowermost stratum then, the Nile overflowed its banks as it does now. But how were data to be

obtained which would determine the rate of deposit in a century? Two points were selected to furnish this—one at the obelisk of Heliopolis, the other at the site of ancient Memphis. Proceeding with the investigation, it is quietly, but most unwarrantably, assumed that the age of the obelisk in 1850 was 4150 years B.C. The space between the bottom of the pedestal and the surface of the ground is 12 feet $4\frac{1}{2}$ inches. Giving $16\frac{1}{2}$ inches for its socket, you have 11 feet of sediment from the present surface to the level of the original soil. This gives 3·18 inches of deposit in a century. The perforations at Memphis led to a conclusion almost similar, and the rate of deposit was taken on all as $3\frac{1}{2}$ inches in a century. The assumption as to the date of the obelisk having been made, nothing hindered the author from carrying out his views. A piece of pottery was found at a depth of 38 feet. On this we have the following startling remarks:—"This fragment having been found at a depth of 39 feet, if there be no fallacy in my reasoning, must be held to be a record of the existence of man 13,371 years before A.D. 1854, reckoned by the above-mentioned increase of $3\frac{1}{2}$ inches in a century; 11,517 years before the Christian era, and 7625 years before the beginning assigned by Lepsius to the reign of Menes, the founder of Memphis; of man, moreover, in a state of civilization, so far at least as to be able to fashion clay into vessels, and to know how to harden it by the action of a strong heat." Yet this was not new. Bunsen ("*Ægyptens Stelle in der Weltgeschichte*"), assuming the authenticity of the chronology of the Egyptian priest Manetho (B.C. 300), leaps to inferences even more startling. He speaks of "records forming a documentary history of nations extending to about 4000 years before our era, and an early period of long duration must necessarily have preceded these. When, on the grounds set forth in our fifth book, we assign to that period a duration of from 6000 to 9000 years for Egypt, and from 15,000 to 16,000 for man's existence, it is no arbitrary and presumptuous application of research, but emancipation of ourselves from error which throws everything into confusion. The first epochs of the human race demand, at the least, a period of this extent, and its commencement 20,000 years before our era is a fair starting-point in the earth's history." But the answer to this is, that, before Manetho's chronology can be taken as authentic, we must have proof that the documents which he collected were contemporary with the events described in them. This we have not, and, indeed, are not likely ever to have.

Did the generalizations of the historian first suggest to the geologist

his peculiar line of corroboration? Perhaps it would be uncharitable to hint this. Be it as it may, his inferences are as little reliable as those of the historian. Were they to be of value, he would need to show us proofs that the rate of deposit has been in all times the same—that there had been no interferences with the course of the river, and that there was no way by which bits of pottery could get to such a depth unless it had been originally laid on the surface and then gradually covered. Now it is known that the rate of deposit has considerably varied even in recent times. The French savants sent by the first Napoleon calculated, on evidence as good as that of Mr. Horner's, that the rate is five inches in a century. Besides, Egyptologists have shown, that one of his standards of comparison, the statue of Rameses II. at Memphis, could not have had mud deposited around it till the destruction of the city, which took place only 800 B.C. Then as to the pottery, bits of Roman earthenware have been found even deeper down than that so triumphantly alluded to by Mr. Horner—a fact which would cast the Roman occupation of Egypt ten or twelve thousand years before the days of Cæsar and Antony! The Nile mud conclusions are baseless as Baron Bunsen's inferences.

2nd. Conclusions drawn from the presence of flint implements in drift gravel. In looking at this aspect of the question it would be unwise to hide, that the apparent grounds for assigning to man a far higher antiquity than we have been accustomed to do, have much more in them to command our serious consideration than any of those yet noticed. They will, moreover, continue to be pressed on the public attention, because several accomplished young geologists have committed themselves to their advocacy. The sooner then that thoughtful men be asked to hear the opposite opinions the better.

In 1838 M. Boucher de Perthes, of Abbeville, Department of the Somme, France, published a work entitled *De la Creation*, in which he assured his readers, that sooner or later traces of antediluvian man would be discovered. In 1846 in another work, *De l'Industrie Primitive, ou les Arts et leur Origine*, he announced that his convictions had been well-grounded, his hopes realized. Flint implements were found in beds, whose age geologists had been in the habit of recognizing as pre-Adamic. A year later M. B. de Perthes published a separate work on the subject entitled *Antiquités Celtiques et Antédiluvienne.* For several years no notice was taken of the alleged discoveries. But in the long run the attention of Mr. Prestwich, a well known and accomplished geologist, was called to them. Mr. Prestwich and Mr. Evans,

a skilful antiquary, visited Abbeville, became converts to the views of M. B. de Perthes, and returned to England to make known the discoveries in the valley of the Somme to men of science. The geological aspects of the question were brought before the Royal Society in two papers by Mr. Prestwich in 1860 and 1862. These papers are very able. The general conclusions arrived at are, that the gravel in which the implements are imbedded was formed during the glacial period, that the animals whose bones are found associated with them, co-existed with the men who formed the implements, and that there was no break between the highest tertiary strata and the present epoch, as is shown by the gradual and uninterrupted succession of life from the pleistocene period till the present time. Man then existed in pre-glacial times.

A controversy sprung up touching the flints themselves. Are they artificial or natural? May they not have been chipped naturally into their present form? Has the effect of intense frost, for example, in splitting flinty and jaspery stones, been taken into account? This controversy may be held settled. Few, if any, are now found who doubt that the flint implements are artificial.

In a paper communicated to the Society of Antiquaries and published during the present year, by Mr. Evans, a list is given of more recent discoveries of worked flints in drift gravel, and special attention is called to British localities in which they have been found. Mr. Evans believes he has adduced facts which "afford strong, if not conclusive, evidence of the existence of man at that remote period, when the Siberian mammoth roamed through our forests, the extinct rhinoceros and hippopotamus frequented our marshy jungles and broadly flowing rivers, and the mighty tigers, bears, hyænas of our caverns preyed upon herds of oxen and horses of species now extinct."

This review might be greatly extended, but let us try and condense the results of research into a few sentences. It is alleged—

1st. That the beds in which the flint implements and the associated mammalian bones occur are of pleistocene age, and do not bear traces of cataclysm or great disturbance.

2nd. That these beds were formed at the period when the men who made the flint implements, and the mammalia whose bones are found in the same deposits, lived. In a word, that men and these animals co-existed in time.

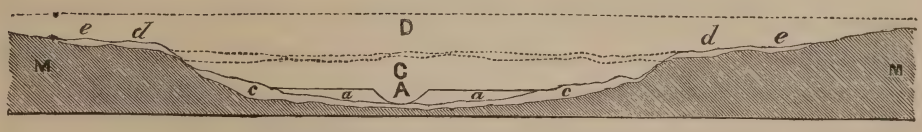
3rd. That these beds are of immense antiquity—stretching far into the past beyond the commonly accepted age of the human race.

If there be truth in these allegations, prevalent views of the time

when man was introduced into the world cannot be correct. It is this state of matters which has led some to question the history of man preserved to us in the Scriptures, and which has led others, with the view of keeping the biblical account intact, to propound for our acceptance the theory that the Adamic was not the only race of man—that, in a word, the Adamic race is of an origin comparatively recent; there were other races whose origin takes us back into geologic time.

Looking at the conclusions now enumerated, it is granted that the beds are diluvial (using this term in its general acceptation, and without any reference to the deluge of Noah, to which thirty years ago it was universally applied). Limiting our attention to the valley of the Somme, this accompanying diagram will give a good idea of the ground.

Fig. 111.



Section of the Valley of the Somme.—(*Prestwich.*)

1. D, a major valley or plain of denudation anterior to the excavation of the river-valley. 2. *e*, a non-fossiliferous drift on the slope and base of D. 3. C, the river-valley. 4. *d*, the high, and *c*, the low-level gravels. 5. *a*, recent alluvium. 6. A, the present river-channel.

The cardinal point in the controversy lies in the phenomena of this valley. How has it been formed? A page in the great book of nature, does it record the story of its own history, in a way so clear and definite as is not to be mistaken. Or is its story suddenly interrupted, leaving us in darkness at the point when light was most needed.

Three views of its formation have originated in these queries, which may be thus characterized:—1st. It is alleged that the river at one time flowed at the level of the dotted line (D), and that in the course of countless ages it has excavated the valley as it now appears. All the phenomena presented by it are thus associated with fluviatile erosion. Of course, if the high level gravels were in position at the time when the bed of the Somme was at D, the human race it is concluded lived at that date, since traces of man's presence are found in gravel gradually laid down on the banks or in the bed of the river at that period. 3rd. It has been felt by many who are favourable to this hypothesis, that river erosion alone is not sufficient to account for the formation of this valley, and they propose to associate it with certain forces of upheaval and subsidence of a slow and quiet kind, which, while its results would, in the course of ages, become well marked, would not violently interfere with the general configuration of the district. "I consider," said Sir

Charles Lyell in his address to the geological section of the British Association, Aberdeen, 1859, "the gravel to be of fluviatile origin; but I could detect nothing in the structure of its several parts indicating cataclysmal action; nothing that might not be due to such river-floods as we have witnessed in Scotland during the last half century. It must have required a long period for the wearing down of the chalk which supplied the broken flints for the formation of so much gravel at various heights, sometimes one hundred feet above the present level of the Somme, for the deposition of fine sediment including entire shells, both terrestrial and aquatic, and also for the denudation which the entire mass of stratified drift has undergone, portions having been swept away, so that what remains of it often terminates abruptly in old river-cliffs, besides being covered by a newer unstratified drift. To explain these changes, I should infer considerable oscillations in the level of the land in that part of France. Lastly, the disappearance of the elephant, rhinoceros, and other genera of quadrupeds now foreign to Europe, implies, in like manner, a vast lapse of ages, separating the era in which the fossil implements were framed, and that of the invasion of Gaul by the Romans." Sir Charles assumes the contemporaneity of the makers of the flint implements and the extinct animals mentioned. So that the modification of the gradual erosion theory, by that of slow and gentle oscillations in the level of the district, does not greatly diminish the length of the period claimed by those who alleged that the whole valley has been scooped out in a quiet way. "The face of the country," says Mr. J. Lubbock (Nat. Hist. Rev., July, 1862), "must have been unlike what it is now [when the Somme ran about one hundred and fifty feet above its present level]. Along the banks of the rivers ranged a savage race of hunters and fishermen, and in the forests wandered the mammoth, the two-horned woolly rhinoceros, a species of tiger, the musk ox, the reindeer, and the urus."

3rd. It has been alleged that we are not warranted to draw such conclusions as to the time required to produce the phenomena which meet us in the Somme valley. In support of this allegation, it is affirmed, that even within the historical period disturbances of the earth's crust, such for example as the great series of earthquakes at Lisbon, 1755, have occurred, sufficient to account for the appearances which meet the observer in this valley. One of these may have entombed the giant mammals of the pleistocene, another may have in long subsequent ages buried the implements whose makers had hastened from the spot where it occurred. Thus no human bones have been

found. It is only necessary to associate such cataclysms with estuary or great river floods, to account for the gravels which contain those remains which have led to so much controversy. It would detain us too long to enter fully into the facts corroborative of this last hypothesis. Suffice it to say, that they are very strong, and that until they are set aside we may save ourselves from all anxiety on this question. While both Sir Charles Lyell and Mr. Prestwich dissent from all theories which imply violent action, the acknowledgment of both, that there may have been oscillations in the level of this locality, virtually imply almost all that such as hold the third hypothesis ask.

The views to which I have now referred are put with great ability by Professor Rogers (*Blackwood*, vol. lxxxviii., October, 1860). After a peculiarly candid and careful review of the whole controversy, he is fully satisfied that a case has not been made out in favour of the immense antiquity of the human race.

Turning to the question of the contemporaneity of man with the mammalia whose bones have been found associated with traces of man's presence, many questions both in stratigraphical geology and in palæontology come before us. These must be passed over, that we may briefly notice one or two points bearing directly on this question.

Is there good ground for the general impression that an immense period must have elapsed between the era of these quadrupeds and Adamic man? The discovery some years ago of a complete mammoth (*Elephas primigenius*) in frozen soil at the mouth of the Lena, Siberia, seems to warrant the inference that the impression is not well-founded. In dealing with such a question—one in which geologic time must be dealt with—why should we not be as willing to bring the pleistocene period nearer to the Adamic, as most are to carry back the Adamic period, in order that it may meet the former?

Some of these bones belong to the *Hippopotamus major*—an animal which demanded a far warmer climate than obtains now in the localities in which they are found. These Dr. Falconer and others are inclined to reckon much older than the other bones with which they are met. They may have been washed up out of older strata then. But if so, why may not those of the mammoth, rhinoceros, elephant, &c., been brought by like agency into the Adamic period?

There is one fact which, as far as I am aware, has not been noticed before. Where traces of man are met with, many of the bones are broken. The use of bones in the chase and in the manufacture of flint implements, is illustrated by the habits of some of the Esquimaux tribes

even in our day. Sir Edward Belcher informs us that they use pieces of horn in the preparation of their flint weapons. Is it not in the highest degree probable, that these bones of huge mammals would be eagerly sought for, by the tribes who have left traces of their presence in gravel heaps and in caves? Instead then of holding that the animals lived at the same time as the men, it would be much more in keeping with the facts before us to hold, that the men had found these bones and had taken them to the places to which they resorted. Indeed the former inference is very much like believing we are warranted to conclude, that the Cambridgeshire farmers lived at the same time with the animals which have left their *fæces* as phosphatic coprolites in the Lias.

When great names are found associated with the keen advocacy of doubtful questions, it is vain to expect an impartial verdict on the merits, even from those who take a lively interest in them. In science as in politics multitudes are content to follow a favourite leader, and to hold that whatever views he may espouse must be right, simply because he does so. Bacon long ago pointed out the spell which this casts over certain minds, and its influence in "retarding the advancement of science." "With regard to authority," he says, "it is the greatest weakness to attribute infinite credit to particular authors." Sir Charles Lyell has won for himself a name and a place in science, second to none in the department to which he has specially devoted himself. He has, in a word, become an authority. He has his followers who receive with unquestioning simplicity whatever he says. In the wide field of physical geology his word will command attention even from those who are not his disciples. This should indicate where his strength lies. When he travels beyond it his footsteps falter. Something of this is seen in his present work on the "Antiquity of Man." The pages devoted to subjects which belong to the anatomist, the zoologist, and the antiquary contain conclusions which one cannot help feeling to be his at second hand only. But to a great majority of his readers his name will be a sufficient guarantee, that all he says may be taken as absolutely true. "It is not wonderful," adds Bacon, "if the bonds of authority have so enchained the power of man, that he is unable (as if bewitched) to become familiar with things themselves."

With the exception of a few sentences, all the views stated in the preceding pages were written before Sir Charles Lyell's work was published. But as it will, chiefly for the reason hinted at above, no doubt continue to be the standard work for reference on this great and

momentous subject, the preceding review of the literature bearing on the antiquity of man would not be complete without a special notice of Sir Charles Lyell's volume. This will be best accomplished by a series of notes, following the subjects in the order in which they are reviewed by him. Such points especially will be noticed as bear on the topics referred to in the foregoing pages.

In the account of "Works of Art in Danish Peat" he says:—"Around the borders of the bogs, and at various depths in them, lie trunks of trees, especially of the Scotch fir (*Pinus sylvestris*), often three feet in diameter, which must have grown on the margin of the peat mosses, and have frequently fallen into them. This tree is not now, nor has ever been in historical times, a native of the Danish islands, and when introduced there has not thriven; yet it was evidently indigenous in the human period, for Steenstrup has taken out with his own hands a flint instrument from below a buried trunk of one of these pines" (p. 9). What authority has Sir Charles for the statement that this pine had perished before the historical period? Simply that no mention is made of it. But if you deny existence in historical time to every plant not mentioned in the literature of particular countries, you will not have many to reckon. The arrow-head was found underneath one of these, and, therefore, the people who used it were a non-historical race, contemporary with the Scotch firs! How easily on the edge of the moss could it have, even generations after the tree had fallen, been carried in a wet season to its position? I possess an iron ring which was found associated with a quartz arrow-head on the surface of a rock covered with four feet of soil. To the eye, at least, two and a half feet of soil looked as if it never had been disturbed since the articles had been laid down in it. The condition in which the metal still is, makes it little likely that it can be more than sixty or a hundred years old. The arrow-head may be two thousand years old. It would not be safe even to guess how they became associated in such a position, but they say to theorists, "Beware."

The inferences as to the extremely remote antiquity of the now famous Glasgow canoes, and as to the forces by reason of which they had been left in the places where they were discovered, are exceedingly doubtful. Besides the value of such inferences is destroyed when alternative ones which cannot be set aside are opposed to them. Mr. G. Buchanan has very fully described the positions in which they were met with:—"Within the last eighty years no less than sixteen of these (canoes) interesting remains of aboriginal workmanship have been

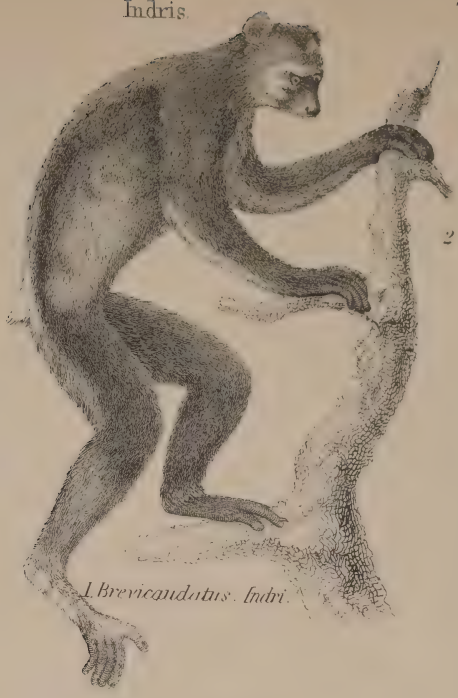
found in and near Glasgow. They are all, with one exception, formed of single oak trees—in some instances, by the action of fire, in others, by tools evidently blunt, probably of stone, and therefore referable to a period so remote as to have preceded the knowledge of the use of iron. The first known instance was in 1780. The canoe lay under the foundation of the Old St. Enoch's Church, at a depth of twenty-five feet from the surface—that is, about the level of low water in the river below Argyle Street—and within it was a stone hatchet of polished greenstone, in good preservation. The second, in 1781, while excavating the foundation of the Tontine, at the Cross; the surface being here twenty-two feet above high water. A third, in 1824, in Stockwell Street, in a deep cutting opposite the mouth of Jackson Street. The fourth was found in 1825, in a cutting for a sewer in London Street, on the site of the 'Old Trades' Land.' The canoe was vertical, the prow uppermost, and a number of shells were inside. The next discovery was made in 1846, when the improvements in the river began to be actively carried out. Eleven canoes were discovered in a short period. Of these, five were found on the lands of Springfield, opposite the lower portion of the harbour; five more on the property of Clydehaugh, west of Springfield; and one in the grounds of Bankton adjoining Clydehaugh. The ten were in groups together, nineteen feet below the surface, and above one hundred yards south from the *old* river-bank, which was then where the middle of the stream now is. The twelfth canoe was brought up by the dredging machine on the north side of the river, a few yards west from Point House where the Kelvin enters. The Erskine specimen was found in 1854." "At the time," says Sir Charles, "when the ancient vessels above described were navigating the waters where the city of Glasgow now stands, the whole of the lowlands which bordered the present estuary of the Clyde, formed the bed of a shallow sea. The emergence appears to have taken place gradually and by intermittent movements, for Mr. Buchanan describes several narrow terraces one above the other on the site of the city itself, with steep intervening slopes composed of the laminated estuary formation. Each terrace and steep slope probably mark pauses in the process of upheaval, during which low cliffs were formed, with beaches at their base. Five of the canoes were found within the precincts of the city at different heights, on or near such terraces. As to the date of the upheaval, the greater part of it cannot be assigned to the Stone Period, but must have taken place after tools of metal had come into use."

Papio.

1

P. Mormon. Mandrill.

Indris.



2

I. Brevicaudatus. Indri.

Loris.

4

Lor. Gracilis. Bengal Lori.

Galago.

3

Galago Senegalensis. Senegal Galago.

Tarsius.

5

T. Spectrum.—Tarsier.

Lemur.

6

L. Catta. Ring-tailed Macauco.

ONCE IN THREE YEARS CAME THE SHIPS OF TARSHISH BRINGING APES.—1 KINGS x. 22.

Now, it is well known that the late Professor Fleming and others have asserted that all the phenomena associated with the Clyde canoes, and the marine shells found at a distance from the sea, may be better accounted for by the action of storm or earthquake waves, than by that of gradual upheaval. While I am of opinion that Dr. Fleming did not look in the face many appearances which the theory of "raised beaches" can alone adequately account for, it yet seems to me that the alternative of storm-waves to explain the phenomena now referred to has never been set aside. This fact of course renders all speculations as to the great antiquity of these canoes of no great value. Boece (*Historia Scotorum*, lib. iii.) mentions that a storm-wave of this kind occurred in the reign of Alexander III., about 1266, which specially influenced the Rivers Tay and Forth, and destroyed many houses and even villages. Fordun, referring to this same marine inundation, says that it was accompanied with a violent north wind. Sir Charles Lyell himself has pointed out remarkable illustrations of the "earthquake-waves." "A great wave swept over the coast of Spain, and is said to have been sixty feet high at Cadiz. At Tangier, in Africa, it rose and fell eighteen times on the coast. At Funchal, in Madeira, it rose full fifteen feet perpendicular above high-water mark, although the tide, which ebbs and flows there seven feet, was then at half-ebb. Besides entering the city and committing great havoc, it overflowed other seaports in the island. At Kinsale, in Ireland, a body of water rushed into the harbour, whirled round several vessels, and poured into the market-place. Peru was visited, on the 28th of October, 1746, by a tremendous earthquake. In the first twenty-four hours, two hundred shocks were experienced. The ocean twice retired and returned impetuously upon the land: Lima was destroyed, and part of the coast near Callao was converted into a bay; four other harbours, among which were Cavalla and Guanape, shared the same fate. There were twenty-three ships and vessels, great and small, in the harbour of Callao, of which nineteen were sunk; and the other four, among which was a frigate called St. Fermin, were carried by the force of the waves to a great distance up the country, and left on dry ground at a considerable height above the sea."

A great difference of opinion obtains on the question of the period at which the alleged upheaval took place. Sir Charles thinks "the greater part of it must have taken place after tools of metal had come into use." Mr. Maclaren says—"There is satisfactory evidence to prove that the bed of the Firth of Forth, and the land on both sides of it, have been raised twenty feet or more, at an epoch which, though

very recent, geologically speaking, is probably long anterior to the records of history."—(Geol. of Fife and Loth., p. 228.) It is highly suggestive that many of the bivalved shells found in the brick clays of the Clyde valley have the umbonal ligature entire, though the shells themselves are much broken. Such features point to a violent and sudden force, and not to conditions illustrated on our present beaches. But even apart from these considerations, is it not at once evident that, if you acknowledge the action of upheaval and subsidence over large areas, you bring an element of extreme uncertainty into the whole matter, and find very many reasons for caution in drawing conclusions as to the time at which phenomena, met with in such areas, occurred. Yet here is a specimen of the reasoning which Sir Charles Lyell believes warranted when reviewing some of the appearances referred to, the application of which in other localities might very easily make the first inhabitants of Scotland an old people at the date of Adam's birth! "But the twenty-five feet rise is only the last stage of a long antecedent process of elevation, for examples of recent marine shells have been observed forty feet and upwards above the sea in Ayrshire. At one of these localities, Mr. Smith of Jordanhill informs me that a rude ornament made of cannel coal has been found on the coast in the parish of Dundonald, lying fifty feet above the sea-level, on the surface of the boulder-clay or till, and covered with gravel, containing marine shells. If we suppose the upward movement to have been uniform in central Scotland before and after the Roman era, and assume that as twenty-five feet indicate seventeen centuries, so fifty feet imply a lapse of twice that number, or 3400 years, we should then carry back the date of the ornament in question to fifteen centuries before our era, or to the days of Pharaoh, and the period usually assigned to the exodus of the Israelites from Egypt. But all such estimates must be considered, in the present state of science, as tentative and conjectural, since the rate of movement of the land may not have been uniform, and its direction not always upwards, and there may have been long stationary periods, one of which of more than usual duration seems indicated by the forty feet raised beach, which has been traced for vast distances along the western coast of Scotland."

Sir Charles has considerably modified the views stated in his "Principles of Geology" (1853, p. 740), with regard to the animal remains in "bone caves"—not, however, I think, in the right direction. An unbiassed perusal of pages 59–74 of his present work, will show how much uncertainty still attaches to the question regarding the mode in

which these bones were brought together. If washed into their present position, all theories as to the contemporaneity of the animals represented by them must be unsafe. The remains of extinct animals, as the mammoth, &c., laid down in superficial deposits, might, by the action of the sea or of rivers on these deposits, be loosened from their beds and associated with the bones of man, who had been ushered into life ages after they had perished.

After reviewing the bearings of the celebrated Engis and Neanderthal skulls on the question of man's antiquity, Sir Charles says—"The two skulls which form the subject of the preceding comments and illustrations have given rise to nearly an equal amount of surprise for opposite reasons; that of Engis because, being so unequivocally ancient, it approached so near to the highest or Caucasian type; that of the Neanderthal, because, having no such decided claims to antiquity, it departs so widely from the normal standard of humanity. Professor Huxley's observation regarding the wide range of variation, both as to shape and capacity, in the skulls of so pure a race as the native Australian, removes to no small extent this supposed anomaly, assuming what, though not proved, is very probable, that both varieties co-existed in the post-pliocene period in Western Europe."

It is, to say the least, highly unphilosophical to assume the probable co-existence of both varieties in the post-pliocene period. Before we can be warranted to do this, the whole controversy as to the interpretation of superficial strata would need to be settled. Have we proof that marks of stratification occur where there has not been gradual and slow deposit—as, for example, in the case of *debacles*, or sudden outbursts of mud from lakes? Is the so-called post-pliocene removed by great ages from the Adamic epoch? Are there not circumstances in which breccias are being rapidly formed in historical time, and showing results even greater than some of those for whose formation epochs are demanded? May not beds of stalagmite under favourable circumstances be formed much sooner than at the rate usually assigned to them? How are we to account for marks of stratification making their appearance in a few years in artificially formed embankments? These and a great many other controverted topics indicate that the question of antiquity is surrounded with very formidable difficulties.

The chapters (xii.–xv.) on the antiquity of man relatively to the glacial period, and to the existing fauna and flora, will strike most readers as abounding with hypotheses regarding the action of physical forces, and the change of surface over wide areas, which owe most of

their strength to the aspects of nature referred to by way of illustration, but which have their weight constantly damaged by the presence of the doubtful "if." At almost every point the question of the possibility of forces greatly accelerated to those recognized by the author is suggested. One cannot resist the feeling that several of the writers quoted—M. Lartet, for example—had been guided in their researches by a foregone conclusion. They had first come to believe in the immense antiquity of man, and then set about the task of finding phenomena corroborative of their imaginings. Of course successfully!

The subject of language, and the anatomical relations of man to the ape, are treated in the concluding parts of Sir Charles' work. The former has been noticed in the remarks on Genesis xi., which see. The latter is considered in the notes on Professor Huxley's "Man's Place in Nature." It is worthy of notice that Professor Owen is at issue with both Sir Charles Lyell, Mr. Darwin, and Professor Huxley on this question. But while Professor Owen pleads for and broadly asserts a normal difference between the brain of man and that of an ape, it should be remembered that, were the identity as marked as most of our young anatomists (Huxley, Rolleston, Turner, &c.) believe, this by no means determines, as many appear to think, that, on natural grounds, a case is made out for the strong probability of man's descent from ape! It does no more than supply to the sceptic a standing-point for promulgating a degrading hypothesis. Taking into account the spiritual nature of man, his place among the varied forms of life around him can never be determined by the anatomical zoologist. A great many other elements besides the weight or the shape of the brain make the gulf great between man and monkey—elements, too, which set Christian men, as they meditate on them, in direct sympathy with Him who looked up to the Father, and said, "A body hast thou prepared me." Science, it may be said, does not acknowledge that there is any weight in this reference. This may be true; yet it is one in which many find rest, who work lovingly in the wide fields of natural science under the rational conviction, that the works of wisdom cannot be rightly understood if the student is ignorant of the true character of the All-wise Worker.

III. Scripture.—It has been widely felt that all appeals to antiquity would fall short of everything like wide-spread influence as to this subject, unless it could be shown to be countenanced by the Bible. Testimony is thus borne to the growth, in recent years, of Christianized

intelligence, and to the sway which revealed truth has over the thoughtful.

Two works of recent date have been devoted to the exposition of this hypothesis from the alleged biblical point of view—"The Genesis of the Earth and of Man," 1856, and "The Pre-Adamite Man," 1860. Looking at the first work, which is written with great ability, one cannot but notice how thoroughly its author seems to have forgotten the great design of the Scriptures. The Bible is not regarded as a revelation of grace to all men. It is looked upon as a book for the wise and prudent, the philosopher, and the accomplished scholar only. Hence the frequent appeals to subtile verbal distinctions and to various delicate shades of meaning, intelligible only to those instructed in Hebrew and in Greek. There seems to be an ever-present feeling, that none but those capable of appreciating such appeals can be held competent to give a decision on any of the great matters handled in the Word of God. Nevertheless, it is still true that "unto the poor the gospel is preached," that "not many wise are called," and that "God hath made foolish the wisdom of the world."

The author of this work refers to such passages as those which represent Cain going into the land of Nod, assumed to have been inhabited by the pre-Adamite men, and as marrying one who could not have been his sister, because in after ages an express law was made against this (Lev. xviii. 9); such passages, too, as refer to the giants—the Nephīlīm, the Anākīm, the Zamzummim, the Emim, &c.; and such as mention the separating of the sons of Adam, expressions held to point to separation from an existing race. The Canaanites are believed to have belonged to the pre-Adamite branches of men. It is, moreover, alleged that the flood did not destroy this race. It only swept away the Adamic. Now, take one or two examples of the exegesis of this author:—The simple words of Exodus xx. 9–11, are held to express this meaning—"Six of thy days (natural days) shalt thou labour, but the seventh of these days is the Sabbath; for in six of his days (figurative days) the Lord made heaven and earth, and rested the seventh of these days." In Genesis iii. 20, we are informed that "Adam called his wife Eve, because she was the mother of all living." Not so, say our theorist: it should be "because she was the mother of many children." "God made man male and female," said our Lord himself (Matt. xix. 4, 5; Mark x. 6). "This," says the author of the first work named above, "does not necessarily imply the non-existence of pre-Adamites: it only means that God has ever proportioned the

females to the males" (!) The precious words of Acts xvii. 26, which point to the universal human brotherhood, in the expression, "God made of one blood all nations of men for to dwell on the face of the earth," are held to "convey a figurative meaning," and are to be looked at in the light of 1 Cor. xv. 39, where the "one flesh of beasts cannot mean that beasts, whatever be their genera and species, originated in a single pair." But a glance at the context in both cases might have put any one right on this point. The term "one blood" is used in Acts to indicate the equality of every family of the human race *as to the offer of the gospel.* In 1 Cor. xv. the word flesh is used first in a general sense, and then to declare that all who believe the gospel shall be distinguished from those who do not believe, as one kind of flesh is distinguished from another kind. *All* were in the first Adam (ver. 45), but *some* only have attained to eternal life in Him who as the "second Adam is made a quickening spirit"—that is, life and resurrection to them who believe. We need not expect much when authors of this stamp try to grapple with passages like Rom. v. 12, and 1 Cor. xv. 21, 22, in which the universal prevalence of death has been held to be associated with Adam's sin. These passages, we are told, teach nothing more than the fact, that the descendants of Adam inherited death from him. They say nothing on the question of its universality because of his sin. "This fact is by no means inconsistent with the existence of multitudes of other men of whom every one died for his own transgression against the law written in his heart"—"he did not (like Adam) sin against a divine revelation." The logical result then is, and it is hinted at more than once in this book, that as Christ died for those only who had sinned against a "divine revelation," given to the head of *one* in the midst of *many* existing families of the human race, his death was not for mankind. The offer of grace to all can have no meaning, and the divine command of grace—"preach the gospel to every creature"—is a mockery. They try to strengthen this position by making a distinction between sin against a revealed law and sin against natural law. But they forget that the whole drift of the apostle's teaching on this question in Romans, is to show that the natural law is as much a "divine revelation" in and to the heart of man, as the written or spoken law itself can be, and that, because of this, Jew and Gentile are all alike guilty before God. (Rom. ii.)

The main biblical aspect of this question, however, turns upon the assumption that Genesis i. describes one creation, and Genesis ii.

describes another. I have already dealt with this assumption, and need not refer to it again. It is perfectly gratuitous and unwarranted. It is suggestive to find, that the advocates of this view cannot accept the theory that the seventh day represents the epoch now running. Mr. Miller's views on this point are held to be weak and inconclusive. The days it is said were ages, but the seventh like the other has passed away. It was the last age of the pre-Adamite man, of which our Sabbath is a memorial! Now, in answer to all this not very profitable speculation, the question will occur to most people—"If there were men before Adam, how is it that we have no remains of them in deposits formed during their existence on the earth?" This is felt to be a hard question, and attempts have been made to answer it, but in vain. Sir Charles Lyell has seen the bearing of this on most of his recent speculations on the antiquity of man, and has found rest in conveniently falling back on the "imperfection of the geological record." But he cherishes the strong hope that some modern strata will yet reveal treasures in abundance to gratify all who are so eagerly looking for them. He says—"That ere long, now that curiosity has been so much excited on this subject, some human remains will be detected in the older alluvium of European valleys, I confidently expect. In the meantime, the absence of all vestige of the bones which belonged to that population, by which so many weapons were designed and executed, affords a most striking and instructive lesson in regard to the value of negative evidence, when adduced in proof of the non-existence of certain classes of terrestrial animals at given periods of the past. It is a new and emphatic illustration of the extreme imperfection of the geological record, of which even they who are constantly working in the field cannot easily form a just conception." The pre-Adamite theorists do not believe there are any difficulties connected with the absence of human remains from fossiliferous strata. Other observers do. They hold, moreover, that the usual way of getting quit of them is not at all satisfactory. It will not do to allege that much life passes away and leaves no traces of its presence behind it. This is true. But it is no more conceivable that the world could have been peopled with a race of men who thus came and departed in geologic time, without having left their mark on nature, than that the crustaceans of the Silurian, the fishes of the Old Red Sandstone, the vegetation of the Carboniferous, or the mammals of the Tertiary period could have done so: just as sure as they have left their footprints on the sands of geologic time, would man have left his. If from this point of view we

set the words of Job alongside of the discoveries of palæontology, they become as deeply suggestive as when read in the connection in which they are used by him:—

> "Ask now the beasts, and they shall teach thee:
> And the fowls of the air, and they shall tell thee:
> Or speak to the earth, and it shall teach thee:
> And the fishes of the sea shall declare unto thee."

However many links there may be between man and those forms whose remains are still met with in "scarped cliff and quarried stone," it has not been his lot to make his grave with them. And, as we peer eagerly into the future, touching the destiny of our race, the poet's query at once gets sympathy—"Shall man," he asks,

> "Who loved, who suffered countless ills,
> Who battled for the True, the Just,
> Be blown about the desert dust,
> Or sealed within the iron hills?"

Thoughts of the resurrection propose an answer, but this lies far away from our present task.

ON THE THEORY OF DEVELOPMENT, AND ON THE ORIGIN OF SPECIES.

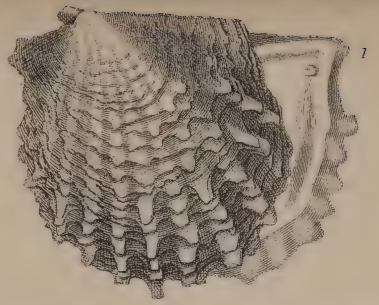
AT the close of our notes on Genesis i. and ii. reference was made to certain current Schemes of Life, which have been proposed by their authors, in the room of the account of the origin and progress of animated Being contained in these chapters. Two merits are held to distinguish them from the Scripture account. On the one hand, they are alleged to satisfy the demands of advanced science, and, on the other hand, to be in harmony with the enlightened intelligence of the age. We claim both features for the sacred narrative.

The theories are two, namely, the scheme of natural law, well known as "The Theory of Development," and "The Darwinian Theory of Species." Generally, they are to be regarded as wholly opposed to the utterances of the Bible on these topics.

I. *The Theory of Development.*—A few years ago it was almost universally believed, that the views of life which characterize this scheme had ceased to be at all influential. It was thought, that as so many facts had been marshalled against it, and the errors involved in it been set in so many lights, it would not be heard of again. It has, however, been very recently reproduced both in this country and in America, claiming the support of science and, generally, the attention of thinkers. Moreover, there is good reason to believe, that though the theory is not now generally in vogue in, so called, learned circles, it has a place in much of the literature of popularized science, and that in this form it may be influencing, to some extent, the minds of a class in whom the main strength of every state will be found. The speculations associated with this scheme have even been favourites with the wandering stars in the firmament of science—as Oken, Virey, Lamarck, &c. It would be unfair to these men to rank the author of "The Vestiges" along with them on the platform of science. They worked in the wide field of nature. His sphere was mainly the

library. The history of this theory points to its origin in some views of creation current in Greece and in Italy, at a time anterior to the Christian era. We, however, are mainly concerned with its aspects in modern times. Two works are chiefly to be noticed in connection with it. These are—"The Philosophy of Zoology," by J. B. Lamarck ("*Philosophie zoologique; ou Exposition des considerations relatives à l'histoire naturelle des animaux*," 1809), and the more recent English work, "Vestiges of the Natural History of Creation." The latter is mainly a reproduction of the principles of the former, with illustrations drawn from a state of science much more advanced. The Frenchman's scheme bears mainly on man—the development of man from the ape, through the incidental modification of bodily organs, and the enlargement of the faculties enjoyed by brutes, whose instincts are held to be of the same nature as the intellectual powers of man. They have only the ill luck to differ greatly in quantity from those of man, but no doubt the chimpanzee has the strong hope of a step onwards some day, and of a mental condition equal to its present august descendants! How it comes to pass that in all history we can find no trace of the period of change, and that in all efforts at monkey-training the teacher has met with no success either in modifying organization, or in developing mind, M. Lamarck wisely does not attempt to answer. But the puzzle is not with the ape only. It is equally mysterious when we look at man. We have reliable information, touching both his bodily organization and his moral and mental character, reaching through thousands of years; but all this goes to show, that what man was four thousand years ago he is yet, having the same, and no other, relations in structure and in instincts to the ape of to-day as to the ape of that remote period. He has not succeeded in developing the race to a point more remote from the gorilla (*Troglodytes gorilla*), orang-outang (*Simia satyrus*), or the proboscis monkey (*Nasalis larvatus*), than he had attained four thousand years ago. See Plate XX., Figs. 1, 2, 3. The figures tell their own tale, even though they are indebted to the artist for what they have of distant resemblance to man—a remark equally true of the graphic illustrations of Professor Huxley's recent work, "Man's Place in Nature" (1863). It is easy enough for an artist to invest the apes in his own imaginings, and then to assign to them a peculiarly man-like aspect in form and attitude.

Some of M. Lamarck's views have been reproduced by Professor Huxley, who has brought his almost unrivalled attainments in anatomical zoology to the illustration of the structural resemblances between



Aviculidæ. Margarita *margaritifera*.

JOB XXVIII. 18: MATTHEW VII. 6.

Family. Arionidæ.

Arion *Ater*.

Family. Testacellidæ.

Testacella *Maugei*.

Zonites *Algira*.

Family Helicidæ

Limax *Flavus*.

Helix *naticoides*.

AS A SNAIL WHICH MELTETH, LET EVERY ONE OF THEM PASS AWAY.—Ps. lviii. 8.

man and the anthropoid apes. Having, as he thinks, made good these resemblances, he directs all his powers to show, that, as regards the points wherein man and the so-called man-like apes differ, these are not more than are to be met with between one true ape and another. "Whatever system of organs," he says, "be studied, the comparison of their modifications in the ape series leads to one and the same result —that the structural differences which separate man from the gorilla and chimpanzee are not so great as those which separate the gorilla from the lower apes." Now, at a time when one-sided and highly exaggerated meanings have been put on this somewhat startling announcement, it would be unfair to let it stand, as has recently often been done, separated from the explanation which follows, and also unfair to withhold our cordial testimony to the candid and, on the whole, philosophic spirit in which Professor Huxley prosecutes his inquiries. While differing from most of his conclusions, and being fully alive to the antagonism of his views to all healthy Christian thought, his work must be characterized as for the most part noted for its want of bias and special pleading.

Referring to the sentence quoted above, he adds—"In enunciating this important truth, I must guard myself against a form of misunderstanding which is very prevalent. I find, in fact, that those who endeavour to teach us what nature so clearly shows in this matter, are liable to have their opinions misrepresented, and their phraseology garbled, until they seem to say that the structural differences between men and even the highest apes are small and insignificant. Let me take this opportunity, then, of distinctly asserting, on the contrary, that they are great and significant; that every bone of a gorilla bears marks by which it might be distinguished from the corresponding bone of a man; and that, in the present creation at any rate, no intermediate link bridges over the gap between *Homo* and Troglodytes. It would be no less wrong than absurd to deny this chasm; but it is at least equally wrong and absurd to exaggerate its magnitude, and, resting on the admitted fact of its existence, to refuse to inquire whether it is wide or narrow. Remember, if you will, that there is no existing link between Man and the Gorilla, but do not forget that there is a no less sharp line of demarcation, a no less complete absence of any transitional form, between the gorilla and the orang, or the orang and the gibbon. I say, not less sharp, though it is somewhat narrower."—("Man's Place in Nature," p. 104.)

Yes—"somewhat narrower!" So narrow, indeed, as to satisfy most

zoologists that it will cease to be seen, when science shall have had opportunities of making a complete comparison between the different species. As it is, few acknowledge the gap, and hold that the transitional links between the highest and the lowest man-like apes are clearly enough marked for all purposes of classification. But there are physical and psychical differences between man and the highest ape which reveal to us a chasm yet unbridged either by theories of development or of natural selection.

But while appreciating Professor Huxley's candour, and yielding a willing tribute of praise to his philosophic spirit as a most accomplished interpreter of nature, it must not be forgotten that he works in the evident belief that nature can tell the secrets of its own origin, and explain the structural links between all its parts—that "the thing formed" has wrapt up in it all required to explain the mystery of its own being. He does not name the Bible. Of course he does not believe that the man of science has, on such questions, anything to do with that book. In his present work he shows how diligently he has searched into the literature of the subject dealt with. Crude theories, travellers' tales, superstitious imaginings, have all had charms for him, and these are skilfully managed so as to give bold relief to his theme. Now, why not exercise the spirit of a sound philosophy when dealing with man's place in nature, and make himself thoroughly acquainted with the literature on this subject? In a word, why not tell us what the Bible says concerning it, and what he thinks of that account? The man of science must bear to be held one-sided in his views, who is not willing to deal with that aspect of the literature of his subject which is to be found in the Sacred Scriptures. The influence which that book has had on the literature of the world, its place in the affections of those whose good opinion is worth having, its power in moulding human thought and giving direction to human action, and the indirect lights which it sheds even on many most perplexing physical phenomena, all demand that a writer who labours in the grand interests of truth should diligently search into the utterances of that book whenever they bear upon his subject. Is the issue dimly seen by some, and dreaded? Either the Bible is right or wrong as to the matter inquired into. Your interpretations of nature are opposed to its plain utterances, but it claims to be an infallible record. You must then dispose of its claims to infallibility before you are entitled to say that your, so-called, discoveries which contradict it are absolute truth. Your interpretations of nature are not sufficient to do this, because you do not know but in

your limited capacities, and in the imperfection of your knowledge, you may have left out something which has vitiated all your conclusions.

In questions like those discussed by Professor Huxley, it is of the utmost moment to determine what the biblical view of them is. It does say something of man's place in nature, and what it says is wholly in the face of the theory that man is no more than a highly developed ape. Professor Huxley acknowledges a great gap as to structure between man and the anthropoid apes. Had he defined them more minutely, I am persuaded he would have found points of agreement between himself and Professor Owen on this topic, which at present he does not believe exist.

A glance at nature reveals to us very many points at which one form of life seems to pass into another—intermediate links, as it were, in the great, so-called, chain of being. But in all such cases there is sufficient to prove that the higher has not, by a process of progressive development, sprung out of that below it. Gradation in different classes of animals has been reckoned by theorists as equivalent to progress in members of the great classes from one form up to another. Bring, for example, the finch falcon of Bengal, which is little bigger than a sparrow, and set it by the side of the lammergeyer of the Alps, or take the little marmoset of South America, about eight inches long, and compare it with the full-grown Bornean orang-outang, nearly five feet high, and it will be evident how much room there is for gradation in the intermediate forms of the monkies—or among the birds of prey. But it would be very absurd, and in the face of all science to hold, either that the whole race of monkies was once the size of the marmoset, or the whole race of the birds of prey once no bigger than the finch falcon. This, however, is virtually the blunder which speculative men of this class are constantly making—they hold gradation in races equivalent to progress in races. If this view be applied to hypotheses touching geological eras and their associated forms of life, it will be found that the same error has had very extensive influence on the literature of natural science.

English readers are much indebted to Sir Charles Lyell for the admirable summary which he has given of the Lamarkian hypothesis, in the "Principles of Geology." He says—"Nature, we are told, is not an intelligence, nor the Deity; but a delegated power—a mere instrument—a piece of mechanism acting by necessity—an order of things constituted by the Supreme Being, and subject to laws which are the expressions of his will. This Nature is *obliged* to proceed gradually in

all her operations; she cannot produce animals and plants of all classes at once, but must always begin by the formation of the most simple kinds, and out of them elaborate the more compound, adding to them, successively, different systems of organs, and multiplying more and more their number and energy. This nature is daily engaged in the formation of the elementary rudiments of animal and vegetable existence, which correspond to what the ancients termed *spontaneous generation.* She is always beginning anew, day by day, the work of creation, by forming monads, or 'rough draughts' (ébauches), which are the only living things she gives birth to directly. . . . . Such," continues Sir Charles regarding *Lamarck's theory of the transformation of the orang-outang into the human species*, "is the machinery of the Lamarckian system; but the reader will hardly, perhaps, be able to form a perfect conception of so complicated a piece of mechanism, unless it is exhibited in motion, so that we may see in what manner it can work out, under the author's guidance, all the extraordinary effects which we behold in the present state of the animate creation. I have only space for exhibiting a small part of the entire process by which a complete metamorphosis is achieved, and shall therefore omit the mode by which, after a countless succession of generations, a small gelatinous body is transformed into an oak or an ape; passing on at once to the last grand step in the progressive scheme, by which the orang-outang, having been already evolved out of a monad, is made slowly to attain the attributes and dignity of man.

"One of the races of quadrumanous animals, which had reached the highest state of perfection, lost, by constraint of circumstances (concerning the exact nature of which tradition is unfortunately silent), the habit of climbing trees, and of hanging on by grasping the boughs with their feet as with hands. The individuals of this race being obliged, for a long series of generations, to use their feet exclusively for walking, and ceasing to employ their hands as feet, were transformed into bimanous animals; and what before were thumbs became mere toes, no separation being required when their feet were used solely for walking. Having acquired a habit of holding themselves upright, their legs and feet assumed insensibly a conformation fitted to support them in an erect attitude, till at last these animals could no longer go on all-fours without much inconvenience.

"The Angola orang (*Simia troglodytes*—Linn.) is the most perfect of animals; much more so than the Indian orang (*Simia satyrus*), which has been called the orang-outang, although *both* are *very inferior* to

man in corporeal powers and intelligence. These animals frequently hold themselves upright; but their organization has *not yet* been sufficiently modified to sustain them habitually in this attitude, so that the standing posture is very uneasy to them. When the Indian orang is compelled to take flight from very pressing danger, he immediately falls down upon all-fours, showing clearly that this was the original position of the animal. Even in man, whose organization, in the course of a long series of generations, has advanced so much farther, the upright posture is fatiguing, and can be supported only for a limited time, and by aid of the contraction of many muscles. If the vertebral column formed the axis of the human body, and supported the head and all the other parts in equilibrium, then might the upright position be a state of repose; but as the human head does not articulate in the centre of gravity, as the chest, belly, and other parts press almost entirely forward with their whole weight, and as the vertebral column reposes upon an oblique base, a watchful activity is required to prevent the body from falling. Children who have large heads and prominent bellies can hardly walk at the end even of two years; and their frequent tumbles indicate the natural tendency in man to resume the quadrupedal state.

"Now, when so much progress had been made by the quadrumanous animals before mentioned, that they could hold themselves habitually in an erect attitude, and were accustomed to a wide range of vision, and ceased to use their jaws for fighting and tearing, or for clipping herbs for food, their snout became gradually shorter, their incisor teeth became vertical, and the facial angle grew more open."

Of course, when matters proceeded so easily up to this point, M. Lamarck could not see the least difficulty in the ape walking forth one morning as a fully developed man! It would be hard to say whether the folly or the blasphemy in this system is greater. The words of the Hebrew sage continue still full of significance—"The lips of a fool shall swallow up himself." It is, however, much to be regretted that Sir Charles Lyell's partiality for the dreams of Mr. Darwin has led to a great modification of his strong views of the absurdity of the Lamarckian hypothesis. But suppose it were established that there is no well-defined structural difference between man and the man-like apes, that the parts in each were the same, and that the only want of likeness consists in mere modifications of form in the different parts, and in the greatly altered general outline of the whole figure caused by these, would we be thereby shut up to the alternative

that man has "originated by the gradual modification of a man-like ape?" Far from it. The student of the Word of God would find in the mental and moral features of man, characteristics which point to a far wider gulf between the lowest man and the highest ape, than even now, it is acknowledged, exists on the ground of structure. Intellect, affection, imagination, a moral sense, and, associated with these, the gift of speech, tell that man and the anthropoid apes are separated by a great gulf indeed. Only when chimpanzees shall begin to speak, gorillas take to the cares of civil government, monkeys to the mechanical and fine arts, may the advocates of natural development and of natural selection entertain the hope, that their favourite apes are about to vindicate their co-equality with man in mind and manners!

Should the time ever arrive when the chasm as to structure shall be filled up, the Christian apologist will find that the very change of the controversy, from the sphere of physical science to that of metaphysics, will bring to him unlooked-for strength. You have made out a case, he will say to his antagonist, of complete similarity between the structure of man and the anthropoid apes. If, then, as to brain, and nerve, organs of sense, and motor powers, there is no difference, how is it that there is not reasoning powers and the faculty of expressing them, as in the case of man? It will not do to point to isolated examples among men where these are not, while the organs with which in other cases they are associated are possessed. Such instances can be explained by the presence of disease, arrested development, defective parts, and the like; but no such hinderances obtain in the constitution of a whole family of brutes, held to be structurally the same as man. Mind thus exists independently of matter. In the case supposed, this consideration would still make a great gap between man and the beasts that perish.

Professor Huxley's view of intellectual power is worse than defective. He does not, indeed, fall into the gross error of those who make it depend on the quality or quantity of the matter of the brain alone; but he evidently holds it to be nothing apart from matter ("Man's Place in Nature," p. 102, note). To discuss this would lead us away from the topics to be specially dealt with in this work. Nor is it necessary, because it has again and again been conclusively done in Christian apologetic literature. But, while glancing at Professor Huxley's work, some notice may be taken of its strong point, especially as it has a close bearing on the present subject. This is, that "man differs less from the apes than they do from one another." Of course the inference

suggested, if not formally drawn, is, that, on the Darwinian hypothesis, man may have sprung from the apes, or, in the lapse of ages, been selected out of them. He does not say so, because the proofs are not to be met with; but he remarks—"If man be separated by no greater structural barrier from the brutes than they are from one another—then it seems to follow that if any process of physical causation can be discovered by which the genera and families of ordinary animals have been produced, that process of causation is amply sufficient to account for the origin of man" (p. 105). This is very plainly put, and enunciated with becoming candour; but it cannot be concealed that it is no more worthy, true science than the daring dreams of M. Lamarck, or the vagaries of De Maillet. In the midst of the light of true knowledge we are cast back on their point of view. We are not to look to the will and power of a personal Creator as the explanation of the existence of "the genera and families of ordinary animals," but to something named here "a process of physical causation." Let us try the application of this phrase to other matters. If the British Museum be separated by no greater barrier as to its arrangements from other houses than they are from one another—then it seems to follow that if any process of physical causation can be discovered by which ordinary houses have been arranged as they now are, that process of causation is amply sufficient to account for the origin and arrangements of the British Museum! There is fully as much sense in this case as in that supposed by Professor Huxley.

But, after all, is there any weight in his favourite affirmation—"Man differs less from the apes than they do from one another?" In such an investigation he was bound to take psychical as well as physical characteristics into account. Had he done so, he could not have put the question as he has done, because it is not true that man differs thus less from the apes than they do from one another. Take the whole family, and while comparing its members with man, regarded from the point of view both of structure and intellectual power, is the gulf as wide between *Simia* and *Hypale* as it is between *Homo* and *Simia?* No zoologist alive to the highest ends of structure, even that it helps to give manifestation to thought and instinct, could retain the respect of his fellows who should answer this question affirmatively. Professor Huxley's favourite position involves absurdities when you apply it to other forms of life. Take an example from the class *Aves*, or Birds:—The vultures differ less from the falcons, than the falcons do from one another. This can be said with all safety; but certainly the inference

would not be warranted that this supplies a presumption that the vultures and the falcons have been erroneously separated. If the same kind of reasoning were carried into botany, the confusion would soon be complete—it would be chaos come again. It has been so; and no wonder that natural selection, or any kind of selection, should have been eagerly laid hold of as a guide.

The aim of the author of the "Vestiges of the Natural History of Creation" far surpasses that of M. Lamarck. The latter is openly and avowedly materialistic. Nature has somehow, in his estimation, a formative power in itself, and is equal to all the demands made on her for variety in realizing one living thing and another. In M. Lamarck's belief, her elements, when disturbed, may take the most remarkable forms, which in their turn wait for new and equally hap-hazard developments. The bits of ivory in a Chinese puzzle are sometimes most easily brought into a beautiful whole by being merely shaken. Thus, under M. Lamarck's imagined natural forces and "elective affinities," some fortuitous concourse of atoms may end in most surprising organic results. In the one case it is worse than a mistake to overlook the personal thought implied in shaping the bits of ivory, so that under a certain combination they should exhibit a shape of beauty; and in the other case the theorist is strangely forgetful of his own identity as one endowed with the capacity of thought. That he possesses the power of theorizing, is virtually the refutation of his theory. But the author, who has wedded M. Lamarck's hypothesis to recent science, claims for his views a power from which the Frenchman would have turned away. "There may," he says, "be a faith derived from this view of nature, sufficient to sustain us under the calamities and woes and pains of this sphere of being!" Alas for the strength and comfort in "*this* view of nature!" The "sustaining" privileges associated with it are well put by H. Miller:—"Lamarck himself, when bearing home in triumph with him the skeleton of some huge salamander or crocodile of the lias, might indulge, consistently with his theory, in the pleasing belief that he had possessed himself of the bones of his grandfather—a grandfather removed, of course, to a remote degree of consanguinity by the intervention of a few hundred thousand *great-greats*."

The "Vestiges of the Natural History of Creation" seeks the elements of its strength mainly from three branches of science—astronomy, geology, and zoology. With such a wide field to work in, there could be no lack of material which an author, with an end to serve, might manage to force into his service. He would, moreover, enjoy the advantage of

creating the impression that his illustrations from geology were not so weak and worthless as the astronomer found those drawn from his favourite science, and that his purely zoological reasoning might be more to the purpose than the geologist had found it in his favourite department; while the great multitude, even of intelligent men whose education and employments unfitted them for knowing any one of these branches so well as to be able to speak authoritatively on it, would be led to dread lest, after all, there might be something of truth in the speculations. It soon became manifest, however, when men came to peruse the work who had made any progress in the exact knowledge of any one of these branches, that the illustrations had not been well chosen, and that, if they were the strongest, as indeed many of them were, they were yet very feeble. The strength of the astronomical position in this theory was found in the existence of what had been considered the materials out of which worlds were being formed—the *nebulæ* well known to astronomers. These bodies, which seemed to the telescopists of the time a kind of fire mist in space, were held to be worlds in the process of formation. But Lord Rosse's telescope was pointed to them, and they were found to be made up of vast numbers of remote stars—worlds, in short, already formed. Nebulous matter no doubt exists in our firmament—matter

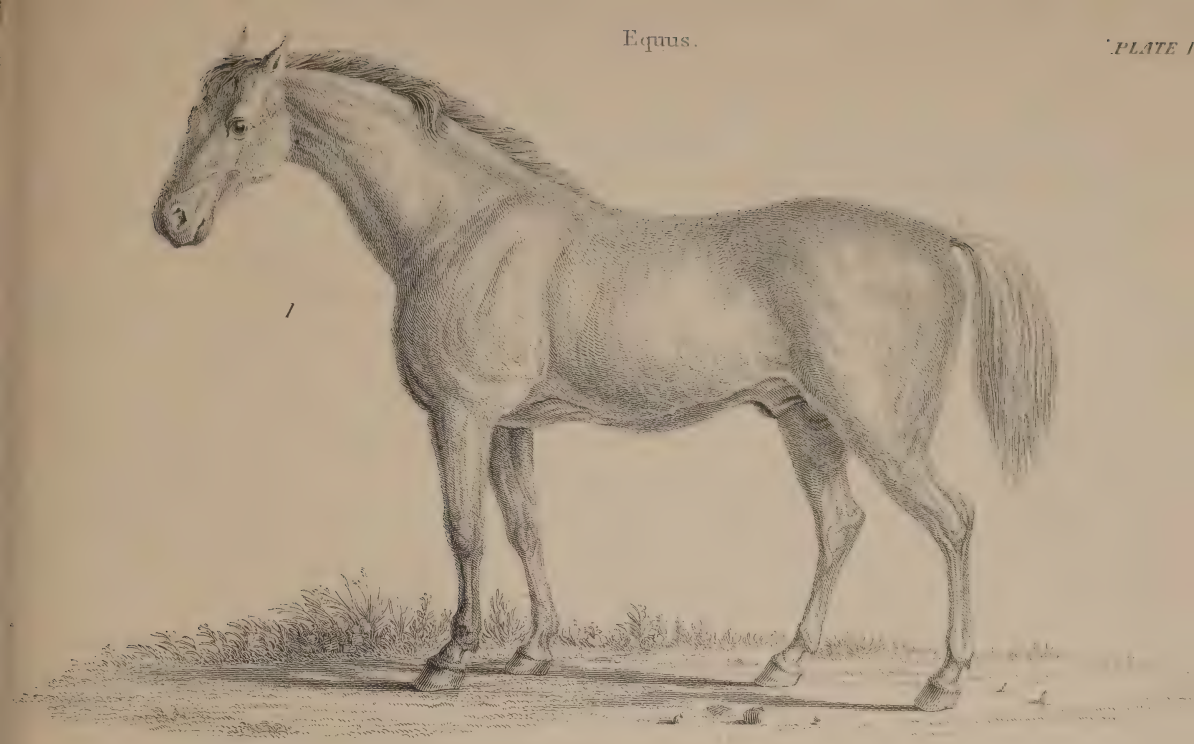
"Weltering in a burning haze"—

but it is destitute of every property which would warrant the conclusion, that it is the material out of which worlds like our own *are preparing to make themselves*, for this is virtually the author's position. If not, the nebulæ would do no service for him. They must, according to this view, have a self-adapting power which can act independently, in order to the realization of world on world in space.

The geological part of the work is signally feeble. In order to fit into the development hypothesis, the various formations in the ascending scale would need to show an unbroken progress from the monad to the mollusc, and from the mollusc to man. Even when this heresy in the philosophy of science was reproduced in the "Vestiges" from the "Philosophy of Zoology" of M. Lamarck, it was met by repeated appeals to well-known facts in direct and open antagonism to it. But the progress which geology has made since 1844 has multiplied these facts very greatly. In the vegetable world the highest kinds of plants have been traced to a point very much lower down than they were believed to be met with in the fossil-bearing strata. Among animals,

true vertebrates have been identified with the top strata of the upper Silurian, viz., the fishes of the well-known Ludlow beds. The Old Red Sandstone abounds in fishes higher in organization than many more recent ones, while the range of true mammalia is now associated with the secondary rocks—the Purbeck beds. Indeed, the worthlessness of the hypothesis is nowhere more clearly seen than in the sphere where its strength should have been found—the domain of geology. There has been development, but it has been that of the divine plan in the introduction of various forms of life—not in the passing of any of these into higher types. Every type of life was perfect, after its kind. Change to it would have been degradation; and therefore, when the period allotted by the Creator to one specific form and another was complete, they were destroyed to make room for others, perfect also in their kind.

On many accounts, the points raised here should be carefully considered. It has been too often forgotten, that the testimony to the wisdom and goodness of God in creation is not limited to the adaptation of means to ends merely. There are many things in nature which seem to contradict this, and which cannot fail to shake the confidence of those who look no higher. What, for example, it might be asked, is the use of the rudimentary feet hid under the skin of certain serpents, or the rudimentary teeth which lie buried in the jaws of the whale? Do not these facts fail to harmonize with the doctrine of final causes? If we look only at adaptation, they will appear to do so, but if we take into account, that the great classes of animals have been formed according to certain plans in the Divine mind, the facts referred to at once fit into one of these plans. Feet have a place in the plan according to which the reptilian type of life is formed, and we cease to wonder at their presence in any member of that class, even though they are not used. Teeth again have a place in the plan according to which the mammalia have been formed. Thus their presence in the jaws of the whale. The discovery of the thoughts of God, in any one aspect of plan, may thus come to give us loftier views of his character than are afforded even by the apprehension of adaptions between means and ends. The development which has had a place in nature from the beginning, has been that which is to be associated with the great purposes of God's self-manifestation. It has been thus an historical development of his plans, in which no place has been given to those changes on individual forms, which science has properly designated "transmutation of species." Indeed much of that power to mislead which



1

E. Caballus. Horse.

2

E. Asinus. Ass.

3

E. Zebra. Zebra

1 KINGS X. 28: GEN. XXII. 3: PSAL. CIV. 11.

belongs to the work now under notice, will be found in the author's habit of pleading in behalf of the facts of successive development of plan, which no one denies, as if this were in all respects equivalent to the production of specific forms by the mere constant action of natural laws. "It was a dream," he says, "of the dawn of true geology that fresh creations of animals were connected with the great physical revolutions of the surface, but this idea is passing away. It is becoming more and more clear, that organic progress depended not by any means wholly or immediately upon external circumstances, but in a great measure on time." The conclusion would be that the huge struthious birds which have left their footprints on the sands of the Permian, or the Trias, were developed into higher forms, and passed into the mammals which lie higher up in the geologic scale.

The zoological aspects of the work draw their strength, if they have any, mainly from quarters into which most intelligent readers can follow its author. But many will find much difficulty in dealing with the author's appeal to embryology, as full of facts in support of his theories. The embryo of the highest types of life, he holds, assumes at different stages of its growth the form of the well-marked characteristic of the embryo of the types below it. Believing that the highest types were once no more than simple gelatinous masses, and that there was a time when all possible life existed thus, he avers that even the mammal repeats its whole past history during the period of its embryonic development. Were we all as watchful as we ought to be in the study of the embryology of the mammalia, we would assuredly be rewarded, we are told, with glimpses of the stages through which during long intervals we have passed up to our present attainments. Each man would have plain proof that the whole human race once lay in a polype, in a star-fish, in an oyster-shell, under the wing-cases of a beetle (of *Carabœus Hercules* we suppose), in a fish, in a reptile, in a bird, in a monkey, from which last stage it was quite easy to become a man! The testimony in behalf of his "argument" claimed from embryology lies, however, where most of his other strong points lie, even in his own imagination. Von Baer, Agassiz, and others, have clearly shown that the plan of the Creator extends to the embryonic forms as well as to the mature, and that these are developed in different ways according as they belong to one zoological class or another. Indeed this is distinctly intimated in the Bible itself. The care of God is traced to the very beginning of life, and the unchanging thought in the divine plan is recognized. "In thy book," says the psalmist, "all my members were

written, when as yet there was none of them." Looked at in this light, and in the view of man's discovery of the thoughts of God in it, the whole passage is highly suggestive :—

> "For thou hast possessed my reins:
> Thou hast covered me in my mother's womb.
> I will praise thee; for I am fearfully and wonderfully made:
> Marvellous are thy works: and that my soul knoweth right well.
> My substance was not hid from thee, when I was made in secret,
> And curiously wrought in the lowest parts of the earth.
> Thine eyes did see my substance, yet being unperfect:
> And in thy book all my members were written,
> Which in continuance were fashioned, when as yet there was none of them.
> How precious also are thy thoughts unto me O God!
> How great is the sum of them!
> If I should count them they are more than the sand:
> When I awake I am still with thee."—(Ps. cxxxix. 13–18.)

Much prominence is given to the embryological view of this question by Professor Huxley in his "Man's Place in Nature." He refers to the important labours of foreign embryologists in this field, without indicating the very important difference of opinion which exists with regard to certain phenomena. Without following the line of remark pursued by him on this subject, which, though complete in so far as it goes, is yet defective in not giving prominence to the fact that there are stages in the development of the embryo which have not been well ascertained, it may be useful to point out one or two things bearing on the question under notice. Chiefly during the last thirty years, the researches of the zoologist have been carried into fields of fresh interest. The study of embryology has opened up new paths, as richly suggestive of the presence, the wisdom, power, and love of the Creator as the most complicated structural features of the full grown animal are. Von Baer, Van Beneden, Vogt, Agassiz, and others, have found that the growth of the embryo, in animals in whose fully developed structure evidences of four distinct plans have been observed, have forms of evolution peculiar to each. Thus the embryo of the *Radiata* differs in its evolution from that of the *Mollusca*, which again is unlike that of the *Articulata*—the *Articulata* differing, moreover, from that of the *Vertebrata*. And here again we meet with the presence of mind, of plan, of intelligent method, in fields remote from the common eye. The same God everywhere works. His care reaches to the remotest point in the life of his creatures. His tender mercies are over all his works.

The discoveries of Von Baer have added elements of great additional weight to the system of classification proposed by Cuvier, which is based on the recognition of four great types of structure—evidences of four distinct plans—among animals. Cuvier's conclusions were arrived at by a very wide comparison of species, after minute examination of individual structure. Von Baer enters the same field guided by a very different thought, and his researches harmonize with those of Cuvier. The study of the embryonic forms of animals results in the recognition of four plans, just as the study of their bodies from the point of view of comparative anatomy had done. The importance of this in Natural Theology cannot be too highly estimated. Von Baer recognizes four types of embryonic development:—1st. *The Peripheric Type*, in which the organization radiates from one focus to the periphery, or circumference; and when the embryo has distinct parts, these are formed ring-like around the central disc, and send their branches into the rays which reach to the circumference. This he styles "*Evolutio radiata.*" 2nd. *The Longitudinal Type*, which, extending throughout the whole department *Articulata*, has, as a chief characteristic, the receiving organs standing at one end, and the discharging organs at another. The nervous system in this type very soon becomes prominently developed. But this in some varieties more than others. Thus sensibility and irritability differ in different groups of the series. In spiders they are greater than in worms; in insects greater than in crustacea. The development is styled "*Evolutio gemmina*"—because it is carried on along two sides of a central axis in the production of identical parts, which close up along a line opposite the axis. 3rd. *The Massive Type*, or *Evolutio contorta*—so called from the development taking place in the production of masses curved around a disc. This answers to the molluscan forms of life. 4th. *The Doubly Symmetrical Type*, which is characteristic of the embryo of all the orders of the Vertebrata. "The development produces identical parts, arising on both sides of an axis, growing upwards and downwards, and shutting up along two lines, so that the inner layer of the germ is inclosed below, and the upper layer above. The embryos of these animals have a dorsal chord, dorsal plates, ventral plates, a nervous tube, and branchial fissures." This is styled "*Evolutio bigemma.*" But not only is this true of the department Vertebrata, it is found that the different *orders* have embryos charac teristic of each. *Monotremes* differ from *Marsupials*, those again from true *Carnivora*, and the Flesh-eaters from the *Ruminants*.

Some years ago the scientific world was startled by the announce-

ment, that by some experiments in galvanism Mr. Andrew Crosse had succeeded in producing certain insects of the family *Acaridæ*—mites, and especially the form named after the author of the alleged discovery, *Acarus Crossii*. Mr. Crosse drew upon himself much odium, because it was generally believed, that he laid claim to the power of calling into existence at will by galvanism the insects referred to. It is now clear, however, that he simply recorded what he had seen, without pledging himself to anything more than the observations made. These experiments were repeated by others, and, in several instances, were followed by the same results. Here was a windfall for the writer of the "Vestiges of the Natural History of Creation." "If," as he alleged, "the fundamental form of organic being is a globule containing another globule in the process of growth, and if electricity can produce the globule, what should hinder the natural action of this force to be constantly at work in creating? And if man, gathering up the forces of nature, guiding galvanic currents in his might, can realize a form so high in the comparative scale as the Acarus, why should nature not be equal to the same, yea even to more marvellous results if left to herself?" Granting the premises, one could not well allege anything against the conclusions. But this is just the difficulty. The author gave bearings to the observations which the observer had too much good sense to claim for them. Since that time the whole subject has been thoroughly set at rest. In the experiments sufficient pains were not taken to exclude elements which might contain the insect, at first believed to have been called into existence by them. This, indeed, has vitiated numberless experiments in the same direction. The attention of science is still directed to the question of equivocal generation, but even the most recent experiments have been shown faulty in this respect—those, for example, detailed by Professor Daubeny. But this whole question had much light shed on it by the experiments of Professor Schulze of Berlin, who succeeded in making an apparatus fitted to exclude the conditions necessary for the presence even of the lowest forms of animal life and of vegetation. The mere access of atmospheric air and light is sufficient to render the experiment faulty. Professor Schulze filled a flask full of water containing animal and vegetable organisms. "He then closed it," says Owen, "with a good cork, through which were passed two glass tubes, bent at right angles, the whole being air tight; it was next placed in a sand bath, and heated until the water boiled violently. While the watery vapour was escaping by the glass tubes, he fastened at each end an apparatus which chemists

employ for collecting carbonic acid; that at one end was filled with concentrated sulphuric acid, and the other with a solution of potash. By means of the boiling heat, it is presumed that every thing living, and all germs in the flask or in the tubes, were destroyed; whilst all access was cut off by the sulphuric acid on the one side, and by the potash on the other. The apparatus was then exposed to the influence of summer light and heat; at the same time there was placed near it an open vessel, with the same substances that had been introduced into the flask, and also after having subjected them to a boiling temperature. In order to renew constantly the air within the flask, the experimenter sucked with his mouth several times a day the open end of the apparatus, filled with the solution of potash, by which process the air entered his mouth from the flask through the caustic liquid, and the atmospheric air entered the flask through the sulphuric acid. The air was of course not at all altered in its composition by passing through the sulphuric acid in the flask; but all the portions of living matter, or of matter capable of becoming animated, were taken up by the sulphuric acid and destroyed. From the 28th of May until the beginning of August, Professor Schulze continued uninterruptedly the renewal of the air in the flask, without being able, by the aid of the microscope, to discover any living animal or vegetable substance; although, during the whole of the time, observations were made almost daily on the edge of the liquid; and when, at last, the professor separated the different parts of the apparatus, he could not find in the whole liquid the slightest trace of *infusoria* or conferva, or of mould; but all three presented themselves in great abundance a few days after he had left the flask open. The vessel which he placed near the apparatus contained on the following day *vibriones* and *monads*, to which were soon added larger polygastric *infusoria*, and afterwards *rotifera*." I have given this prominence to the subject of equivocal generation, both because the hypothesis now looked at draws much of its strength from appeals to it, and especially because there are many indications, both in this country and on the continent, that fresh claims may soon be made in its behalf. The history of past researches should teach us, that no reliance is to be placed on any of the experiments, which profess themselves equal to results which the Christian mind is assured are within the power of the Creator only.

The theory of development may not inaptly be described as the denial of a personal God in the universe, and the deification of natural law. Its credit is not saved by a general acknowledgment of a God,

with natural law to which all his power has been delegated, because it removes him from that control of things, without which even natural law becomes fatalism. Rising above the lowermost types of life, the author describes the upward process in creature-making; "they advance under favour of peculiar conditions, from the simplest forms of being to the next more complicated, and this through the medium of the ordinary process of generation; and finally, that the simplest and most primitive type, under a law to which that of like production is subordinate, gave birth to the type next above it; that this again produced the next higher, and so on to the very highest." If any man were to tell us that he had recently given much attention to the Hazel family of trees (*Corylaceæ*), that he had discovered all the hornbeams, hazels, oaks, and chestnuts, were on their way to become beech-trees, and that he found, at one point and another, evidences that the beech had gone through all these stages by periodically casting "nuts," which forgot to grow into beech-trees, but assumed one or other of these forms, the first demand of his audience would be for facts in proof. But if the only answer were assertions—"So I think," "It seems to me," "I am sure it must be," "I imagine nothing can be said against it," "Things as unlikely have occurred"—the statements would soon find their true place among the dreams of those wanting in sober-mindedness, the reckless allegations of those to whom the wounds of truth bring pleasure, and the speculations of infidelity afford gratification. Yet the law of growth in animal life, and its transmutation from one distinct form into another, as expounded in one of the shallowest works in the whole popular literature of science, is based on considerations which cannot appeal to one fact in proof, and which are even more in the face of all science and of all common sense than those referred to in connection with the trees. In that grand march of life, the steps of which we trace in the fossiliferous strata, there is seen a development fraught with rich views of the Creator's power, wisdom, and goodness—a development in which the Christian will find much to exalt his thoughts to him by whom the worlds were made. But this only brings out the degrading character of a theory which thrusts all this out of sight. "It is to be remembered," wrote Henry Mackenzie, nearly half a century ago, "that no evil is so pernicious as that which grows in the soil from which good should have sprung," a remark which may be appropriately applied to the theory considered above, but which, perhaps, is even more true of the scheme of life to be noticed next.

II. *The Darwinian Theory of the Origin of Species.*—This has recently been discussed very fully. Several things have invested it with great importance. It has for its author one who had earned for himself a well-deserved name as an able zoologist; it is brought out in a style well fitted to interest readers; facts are alleged in its support which beget the hope that a well-defined conclusion might be reached regarding it; difficulties in the determination of species, which every naturalist has often felt, are to be discussed, explained, or removed out of the way; and above all, it promises to make us much better acquainted with the laws which regulate organic beings than we now are. This last pretension, or promise, is enough to gather all lovers of truth around the theory—more and fuller light on this subject being constantly sought. It promises us bread; does it only give us a stone? Its author and his followers claim that it must be dealt with on the ground of science alone. They wish to ignore its theological bearings altogether. This desire would be quite legitimate, if it could be shown that the question has not, naturally, direct theological relations. The truth, however, is, that these not only characterize it remotely, but it rushes into the very midst of them, and assumes a position directly antagonistic to the whole faith of Christendom. It is thus impossible to discuss it from the point of view of science alone; and it is asking too much to demand, in this country at least, that it should be. Nevertheless, it is satisfactory to know that the scientific objections to it are as strong as those of a purely theological kind.

Its author, and those who hold with him, disclaim all connection with the development theory, which they do not scruple to speak of in terms far stronger than any used above. Few have been able to sympathize with this disclaimer. To a certain extent, however, it is made on good grounds. In Mr. Darwin's theory no attempt is made to make out the wholesale development, by natural generation, of organic beings, from others immediately below them. This difference does not tell in favour of the new hypothesis, but rather against it. In the views of creation enunciated in the "Vestiges" there was, at least, a distinct recognition of certain laws, under the action of which the changes were produced; but in Mr. Darwin's theory even this is ignored, as we shall see, and the whole doctrine of final causes—the fitness of means to ends—is summarily turned out of court as if no witness in the matter. In its bearings then on Scriptural truth, and even in its value as a page in the philosophy of science, it seems to me worse in its tendencies than even the shallow theory of natural development. It is,

moreover, in very many respects much more attractive, and has points of strength about it of which the old view was destitute. This makes it more dangerous.

Looking abroad on nature, we find among plants and animals individuals which differ very widely from each other, as for example, a horse and a cow, a dog and a sheep, a blackbird and a redbreast, a lizard and an adder, a fresh-water trout and a flounder, a limpet and an oyster. These we characterize as specific forms of animal life. They have a distinct individuality, which would keep even the most ignorant from mistaking any one of them for the other. As individuals they have an independent existence. One is not the other; it never was so; it cannot become so. Thus we have the individual organism to which we give the name of *species*. Most men have hitherto held that the organism was constituted a specific form by a creative act, and this belief has drawn its strength from two quarters. First, Science has testified to its truth. It has never been found that individuals born from the same parents have left the relations which at birth they bore to each other. Two children have never been known to strike off so far from one another, that it could be said of either he has ceased to be human. Two lions born at a birth have continued lions until their death, and two eagles developed from eggs produced by common parents have throughout the duration of their lives retained their common individuality—their common structure and instincts. Within a certain sphere they may have varied from each other in colour, in size, and even in some modifications of structure, and thus have given rise to varieties. But they continue eagles still, and even their variations cease to be permanent beyond a certain point. In some cases permanent varieties may, no doubt, be attained, but these do not deserve the name of distinct species. All science bears testimony to the truth of these statements. Second, The Bible speaks to the same point. In the first chapter of Genesis we are told that the various forms of animal life and of vegetation were created after their kind. There is no mention made of development by natural law; there is nothing, in all the narrative of the six days' work, akin to the transmutation of species by natural selection. Thus on this subject the testimony of Science and of the Bible is one.

With the view of giving definitiveness to scientific studies, naturalists, while holding that specific forms have an unalterable individuality, bring as many of these as seem to admit of being classed together into one great division, under the name of a *genus*. A generic group thus

consists of such species as have well-marked likeness to each other, especially in structure and general appearance, but which still maintain their place as distinct species. Thus the blackbird, the song-thrush, the fieldfare, the missel-thrush, and the mountain ousel, constitute a generic group of British birds; the blue tit, the black tit, the larger and the long-tailed tits, &c., another. But both genera admit of being looked at under a much wider relation, viz., that of *families*, the place in which is determined by certain observed resemblances between genera, even as genera are made up of what should be distinct species. Thus in the family group to which the *tits* belong, we have associated with them garden warblers, willow warblers, stone-chats, &c. And proceeding on the same principles, we will rise in any satisfactory plan of classification to *orders*, under which families are grouped, even as genera are grouped under families, and species under genera. A little knowledge of these first principles of zoological classification, in connection with their application in the field, will lead us to the conviction, that while the more general divisions are artificial, and their limits often much dependent on the views of the student, it is not so with species. They are fixed and permanent. There may be controversy as to what place they should hold in an artificial system of classification, but not as to their individuality. We might discuss the propriety of assigning a distinct genus to the magpie, in its place in the family group *Corvidæ*, or Crows, but that it is *specifically* distinct from the Rook (*Corvus frugilegus*) admits of no doubt whatever. These methods of arrangement have greatly helped on the progress of zoology; but Mr. Darwin thinks he has discovered that there is no certainty as to the individuality of specific forms, that they are not permanent, but that they have changed, and have a constant tendency, or, shall we say, appetency, to change. This is the great point which he hopes to make good in his work on "The Origin of Species." He has been met in his zoological studies by the too common drawback—the presence of multitudes of forms of life, dignified with the name of species, in which he could not discover the usual characteristics of species, with, in short, mere varieties which have been thrust on students as distinct species; and instead of repairing the fabric, nothing would satisfy him but pulling it down and rearing a new one in its place. But he has made a grave blunder in the outset. He has forgotten the foundation. "No one," says Mr. Darwin, in his introduction, "ought to feel surprised at much remaining as yet unexplained, in regard to the origin of species and varieties, if he make due allowance for our profound

ignorance in regard to the mutual relations of all the beings which live around us. Who can explain why one species ranges widely, and is very numerous, and why another allied species has a narrow range, and is rare? Yet these relations are of the highest importance; for they determine the present welfare, and, as I believe, the future success and modification of every inhabitant of this world. Still less do we know of the mutual relations of the innumerable inhabitants of the world, during the many past geological epochs in its history. Although much remains obscure, and will long remain obscure, I can entertain no doubt, after the most deliberate study and dispassionate judgment of which I am capable, that the view which most naturalists entertain, and which I formerly entertained, that each species has been independently created, is erroneous. I am fully convinced that species are not immutable; but that those belonging to what are called the same genera are lineal descendants of some other and generally extinct species, in the same way as the acknowledged varieties of any one species are the descendants of that species. Furthermore, I am convinced that Natural Selection has been the main, but not exclusive, means of modification." —P. 6. Such, in few words, is Mr. Darwin's profession of faith. It is very clearly and distinctly made. In looking somewhat more closely at it than has yet been done, the general views of the author regarding creation should be taken into account, and then the facts alleged in support of his theory should be considered.

It does not appear likely that any scheme of zoology can be trustworthy which refuses to acknowledge the presence of a personal Creator in nature. Is there on the face of nature evidence of divine plan in it? If so, then there should be the recognition of a present Creator in all quarters of creation, and at every point in its history, from the time at which he laid the foundation of the earth to the present moment, when he invites us to the examination of those works which are "sought out of all who take pleasure therein." I state this at the risk of being misunderstood, and of appearing to drag into the discussion questions which may be held foreign to it. But the fact is, you can no more come to a just conclusion as to the relations between one department of science and another, and between different forms of life, with both of which classification must deal, without the recognition of a living, purposing mind in regulating these relations, than you can form a correct estimate of the working of any piece of mechanism without looking at the intention of its inventor. Even in the fine arts, just appreciation comes to turn upon our sympathy with the artist. But if we break up the historical

picture into bits, though they may be bits of beauty, and refuse to look at all the parts from the point of view of the intention of the artist, so far as he has made that known to us, we must blunder in our estimate of the parts which we have refused to look at in this light. In the case now before us, the Creator has opened up to man much which is fitted to make us acquainted with his intention; and the more we see of this, the nearer we get to an understanding of that one true plan which systematists are seeking to bring fully out, and which will attain to reliable historical expression only in the measure in which man, the interpreter of nature, shall succeed in understanding the intentions of the Creator revealed in his works. It is to be regretted that little value is attached to this thought, and that many even studiously exclude it from their researches, as if to introduce it implied disqualification for their work. Mr. Darwin is not slow to intimate how he regards this subject. "Many naturalists think," he says, "that something more is meant by the natural system (than a scheme for arranging together those living objects which are most alike); they believe that it reveals the plan of the Creator; but, unless it is specified whether order in time or in space (why not both, and order in place likewise?), or what else is meant by plan of the Creator, it seems to me that nothing is thus added to our knowledge."—P. 413. Again, at p. 435, he remarks, in a way which, to say the least of it, does not bear witness to very enlarged views of creation:—"Nothing can be more hopeless than to attempt to explain this similarity of pattern in members of the same class, by utility or by the doctrine of final causes. The hopelessness of the attempt has been expressly admitted (?) by Owen, in his most interesting work on the 'Nature of Limbs.' On the ordinary view of the independent creation of each being, we can only say that so it is; that it has so pleased the Creator to construct each animal and plant." A good deal more can be said of each animal and plant than this; but if in ten thousand instances we find unquestionable evidence of final cause, are we not to conclude that, were our knowledge complete as to one instance, in which we do not at once observe this, the same testimony might be expected as in the others. What is a mystery to a child in the actions of his parent, may be well understood when he comes to be a man. What would be implied if we expressed our present knowledge of the use of the serrated claw on the anterior toe of the Goatsucker (*Caprimulgus Europæus*) in the phrase, "It has pleased the Creator to distinguish this bird from all the other *fissirostres* by supplying it with a comb-like claw, the use of which we do

not see?" Not, certainly, that there is no illustration of the doctrine of final causes here, but only that we are not sufficiently acquainted with the habits of the bird to be able to say what the true use of this claw is. The numerous illustrations of this same doctrine in the structural relations of animals widely differing in general form and habits, but ranged under one great type, had as true an existence from the beginning as they have now that Owen's researches in homology have given us the key by which they can be read. But is there only one great type, and one great plan? Or do we meet with a far higher thought than Mr. Darwin is willing to acknowledge, in connection with several great types whose leading divisions are constructed on different plans? Do the radiata, for example, follow in structure the plan of the vertebrata? The whole direction of the most philosophical investigations in natural science is to accumulate proofs of four distinct plans, after one or other of which all animal life has been formed. In the evolution of these, under the four great types—vertebrata, articulata, mollusca, and radiata—we find the basis for the doctrine of final causes which Mr. Darwin has no favour for, but apart from the recognition of which all nature would be a scene of confusion. It is not unnecessary to call attention to these things. There are many evidences that some most accomplished naturalists are drifting from moorings which ablest systematists and most profound thinkers, from the days of Bacon, have regarded as not only safe, but also most suited to the requirements of advancing science.

The author lays much stress on his facts. These may be divided into several classes:—(1) Those drawn from the history of domesticated animals. These are produced with the view of showing that man, by a long-pursued watchful course of selecting individuals, distinguished by certain peculiarities in colour or structure, can so alter the form as to make the variations permanent. The facts given in this part of his work are not, however, beyond the reach of controversy. But were they so, the introduction of man's intelligence, as the selecting agent, vitiates the whole, seeing that the author is making out a case for *natural selection*—the goddess of his devotion—which is thus introduced:—"It may be said that natural selection is daily and hourly scrutinising, throughout the world, every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working, whenever and wherever opportunity offers, at the improvement of each organic being in relation to its organic and inorganic conditions of life. We see nothing of these slow

changes in progress, until the hand of time has marked the long lapse of ages, and then so imperfect is our view into long past geological ages, that we only see that the forms of life are now different from what they formerly were."

(2) Alleged corroborations drawn from geology. "He would have us believe," says Agassiz, "that the oldest organisms were simple cells, or something like the lowest living beings now in existence; when such highly organized animals as trilobites and orthoceratites are among the oldest known. He would have us believe that these oldest first-born became extinct in consequence of the gradual advantage some of their more favoured descendants gained over the majority of their predecessors; when there exist now, and have existed at all periods in past history, as large a proportion of more simply organized beings as of more favoured types, and when such types as *Lingula* were among the lowest Silurian fossils, and are alive at the present day. He would have us believe that each new species originated in consequence of some slight change in those that preceded; when every geological formation teems with types that did not exist before. He would have us believe that the animals and plants became gradually more and more numerous; when most species appear in myriads of individuals in the first bed in which they are found. He would have us believe that animals disappear gradually; when they are as common in the uppermost beds in which they occur as in the lowest or any intermediate bed. Species appear suddenly, and disappear suddenly, in successive strata. That is the fact proclaimed by palæontology. They neither increase successively in number, nor do they gradually dwindle down; none of the fossil remains thus far observed show signs of a gradual improvement or a slow decay. He would have us believe that geological deposits took place during the periods of subsidence; when it can be proved that the whole continent of North America is formed of beds which were deposited during a series of successive upheavals. He would have us believe that the most perfect organs of the body of animals are the product of gradual improvement; when eyes as perfect as those of the trilobites are preserved with the remains of these oldest animals. He would have us believe that animals acquire their instincts gradually; when even those that never see their parents perform at birth the same acts, and in the same way, as their progenitors. He would have us believe that the geographical distribution of animals is the result of accidental transfers; when most species are so narrowly confined within the limits of their natural range that

even slight changes in their external relations may cause their death. And all these, and many other calls upon our credulity, are coolly made in the face of an amount of precise information, readily accessible, which would overwhelm any one who does not place his opinions above the records of an age eminently characterized for its industry, and during which that information was laboriously accumulated by crowds of faithful labourers." The very lame answer which our author gives to all the demands which the geologist makes for facts in proof is, that "extinction and natural selection go hand in hand!"

(3) Alleged facts drawn from organic beings now alive. Here as many as are familiar with Mr. Darwin's great abilities as a zoologist will naturally expect "facts" past gainsaying. In noticing this part of the work, its wide-spread circulation will be kept in view, and the remarks made on it will be so put, that readers may refer to the work itself, while those who are not in possession of it will see the weakness of the theory when it is set alongside of well-known phenomena. Very much is made of the want of harmony among naturalists as to the meaning of the word *species*, and the strong tendency to assign the rank of specific form to organisms which must be regarded as *varieties* only. Too much stress is laid upon this, and on the mistakes of even great systematists. The interpreters of nature of one generation may make mistakes which their successors in another may be found qualified to correct; but it does not augur the possession of much wisdom for any one to find in the error a vindication of doubt, as to the existence of any such plan in creation as the aggregation of unquestioned phenomena demand. Cuvier had assigned a distinct place to the barnacle under mollusca, but it is now ranked in crustacea under articulata. The removal from the former to the latter should not merely incline any observer to the conclusion, that because Cuvier made a mistake as to the place of the cirripedes, he has not discovered the plan of the Creator in connection with other divisions of the mollusca! On the contrary, these modifications in arrangement as science advances, afford some of the strongest evidences that we are rightly interpreting the Divine plan. It is, moreover, one of the most deeply interesting studies which can be followed by a thoughtful observer, to trace the history of opinion as to the true place in nature of one form of life and another, to see how slowly doubts arose as to their right classification, to note the great gap between their present position and that at which we first meet with them, and to mark the gradual way in which most competent observers come to concur in leaving them in a niche which

Nasalis.

N. Larvatus . Proboscis Monkey.

Troglodytes.

Troglodytes Gorilla . Gorilla.

Simia

Simia Satyrus.Ourang Outan.

EVERY THREE YEARS ONCE CAME THE SHIPS OF TARSHISH BRINGING APES.—2 Chron. ix. 21.

WILLIAM MACKENZIE, GLASGOW, EDINBURGH, LONDON & NEW-YORK

had been waiting for them, or from which other forms had to be excluded in order to make room for the pre-ordained occupant.

Most observers have dwelt with pleasure on those points in the zoologic scale, at which one specific form is seen to possess many marks characteristic of another specific form immediately above or below it. The step from the one type to the other is so narrow, that they seem almost to blend. To these, however, the name of distinct species has rightly been given hitherto. Mr. Darwin gives them the name of transitional varieties. He finds in them evidence that the one has been modified into the other, only he has not been able to detect them in the act of change. In all the historical period they have continued just what they now are. One of these so-called transitional varieties is a species of weasel found in North America (*Mustela vison*). It has webbed feet, and bears much resemblance to the otter, in its fur, its short legs, and in the form of its tail. "During summer this animal dives for and preys upon fish, but during the long winter it leaves the frozen waters and preys, like other polecats, on mice and land animals." —P. 179. But he need not have gone to North America for an illustration. There is one nearer hand; the common otter (*Lutra vulgaris*), the link between which and the true weasels is to be found in this "transitional variety." Its usual habitat is fresh water, but Fleming found that in Zetland it frequently took to the sea. In times of scarcity of food it is known to take to the land. "When fish are scarce, it will assume the habits of the stoats and weasels, resorting far inland to the neighbourhood of the farm-yard, and attacking lambs, sucking-pigs, and poultry." Gilbert White's expression, "quadrupeds that prey on fish are amphibious," might have suggested that there is really nothing transitional in Mustela vison. We are no more entitled to conclude that in it we have a weasel about, in course of time, to give up rats and mice for fish only, and to forsake the land for ever, than we are to suppose that *Larus argentatus* is gradually getting a dislike for herring, and may be soon expected to become a true land bird, because it spends weeks in spring among the arable lands, often many miles from the nearest shore. The webbed foot of Mustela vison is shown by its habits not to have been designed to unfit it, in order to the preservation of the species, for spending a few months on land, for which its make otherwise well adapts it.

Another transitional variety is found in the well-known European dipper, or water ousel (*Cinclus Europœus*). The choice is even less fortunate than that of the North American weasel. Its existence

alongside of the true thrushes (*Turdidæ*), and its relation to the ant-thrushes (*Formicarinidæ*), with modifications of form which separate it from both, its tail shorter, its bill stronger, its legs thicker, its feathers denser, with an under-coat of down, as in true divers, than those of thrushes—all suggest distinct specific differences, and not a transitional variety. There are no bristles at the base of the bill, as in turdidæ and formicarinidæ; its mode of nesting and its eggs differ widely from both. It is just one of those links, which will suggest to most another illustration of how closely one form of life may approach to another, while the Creator keeps them as persistently distinct, as He does those furthest removed from each other—the falconidæ, for example, from the sylviadæ. "He who believes," says Mr. Darwin, "in separate and innumerable acts of creation, will say, that in these cases it has pleased the Creator to cause a being of one type to take the place of another type; but this seems to me only re-stating the fact in dignified language" (!).—P. 186. Suppose we were not to say this, as indeed we would not, but to say that the structure or instincts of certain members of great types had been so modified by the Creator, as to fit them for habits unlike the general family—would this not be as true in science as it is in our acknowledgment of the direct and special arrangement of the Creator?

The friends of Mr. Darwin are constantly referring to the "facts" which he has given in support of his theory. Now, there are very few facts indeed, if there be any, which can be held to bear direct testimony favourable to it. Some of them may be looked at. "No bee," he says, "but the humble bee visits *viola tricolor*," one of our most common and prettiest wild violets; and he believes that were humble bees destroyed, this pretty wild flower would soon die out. I have seen the common bee on it. Propagation by offshoots would preserve this pansy, even if it never dropped a seed. Hive-bees, he tells us, cannot get at the nectar in the flower leaf tubes of the common red clover, "because of the shortness of their proboscis." Were they destroyed, the propagation of this plant would cease. But other insects, butterflies and day moths, would perform the same office for it as the humble bee. Besides, it would propagate by offshoots also. Did it not cause Mr. Darwin astonishment, when he recollected that the hive-bee has been side by side with the red clover for thousands of years, and yet its attempts to get at the nectar have not resulted in giving greater length to its proboscis? Is not this as unpliant on the part of said proboscis to witness to the truth of Mr. Darwin's theories on the

influence of habit, as it is on the part of the neck of the teal (*Boschas crecca*) to yield corroborative evidence. The constant habit of searching for food in the mud, it is alleged, has given the length of neck to goose and swan. How the teal has missed a long neck must be accounted for by the presence of a certain persistent obduracy in its cervical vertebræ. But the teal may be on the way to a neck proportionally as long as that of the swan. We need to give the species a million or two of years more, and the form of man to be alive at that time will see another proof of the wisdom of his ancestors. Ere then our water rats shall have been selected into ducks, our ducks to geese, our geese to gorillas, and a new type of man would be sure to follow! In the propagation of species, he holds that sexual selection (p. 88) will depend on the vigour of the males, or on their possession of special weapons. In gallinaceous fowls, the cock with the longest and sharpest spurs will, in the latter case, be most successful. But, to use Mr. Darwin's expression, we could give "a long catalogue of facts," which show that, as among men, so it is with the lower animals—the whim, the taste, the fancy of the female, are to be taken into account. Among birds, we have seen a vigorous female choose a poor, emaciated, more dead than alive male, when she might have taken to her a healthy one. Again, in a time of scarcity of food for wolves, we are told (p. 90) that it is clear the fleetest and healthiest is sure to be selected to resist the effects of the famine. It might be the most cunning, yet the weakest; and the selection would thus be of the bad. "All insects," says the author, "pair for each birth" (p. 96); of several families which do not, we refer to the *aphides*, or plant lice. It is not capable of proof that *ornithorhynchus* and *lepidosiren* (p. 107) have survived from geological eras, because exposed to less severe competition in the struggle for existence than other forms which have perished.

The author's theory regarding the original type of the horse (p. 164) would meet a ready refutation were an effort made to cross-breed with a zebra, and then a continued breeding in-and-in had recourse to. The reference to the species of woodpecker at p. 184 is peculiarly unfortunate. The bird referred to is not a true woodpecker, but a species of an allied genus, and one whose structure is in harmony with its habits. The bird to which he refers is the La Plata colaptes (*Colaptes campestris*). These things are all against the value of this theory even in its pretensions, to a high place in the philosophy of science. The theory, moreover, is directly at variance both with the views of creation given us in Scripture, and of the Creator who formed all life after its

kind. All geology, all botany, and all zoology, testify that species have a real and permanent existence in nature; that they have continued thus under every variety of influence; and that, in each case, they have been ushered into being by the creative act of an All-wise and All-powerful God.

"Since His word all things produced,
Though chiefly not for glory as prime end,
But to show forth His goodness, and impart
His good communicable to every soul
Freely; of whom what could He less expect
Than glory and benediction, that is, thanks,
The slightest, easiest, readiest recompense."—(*Milton.*)

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